

## Historic, archived document

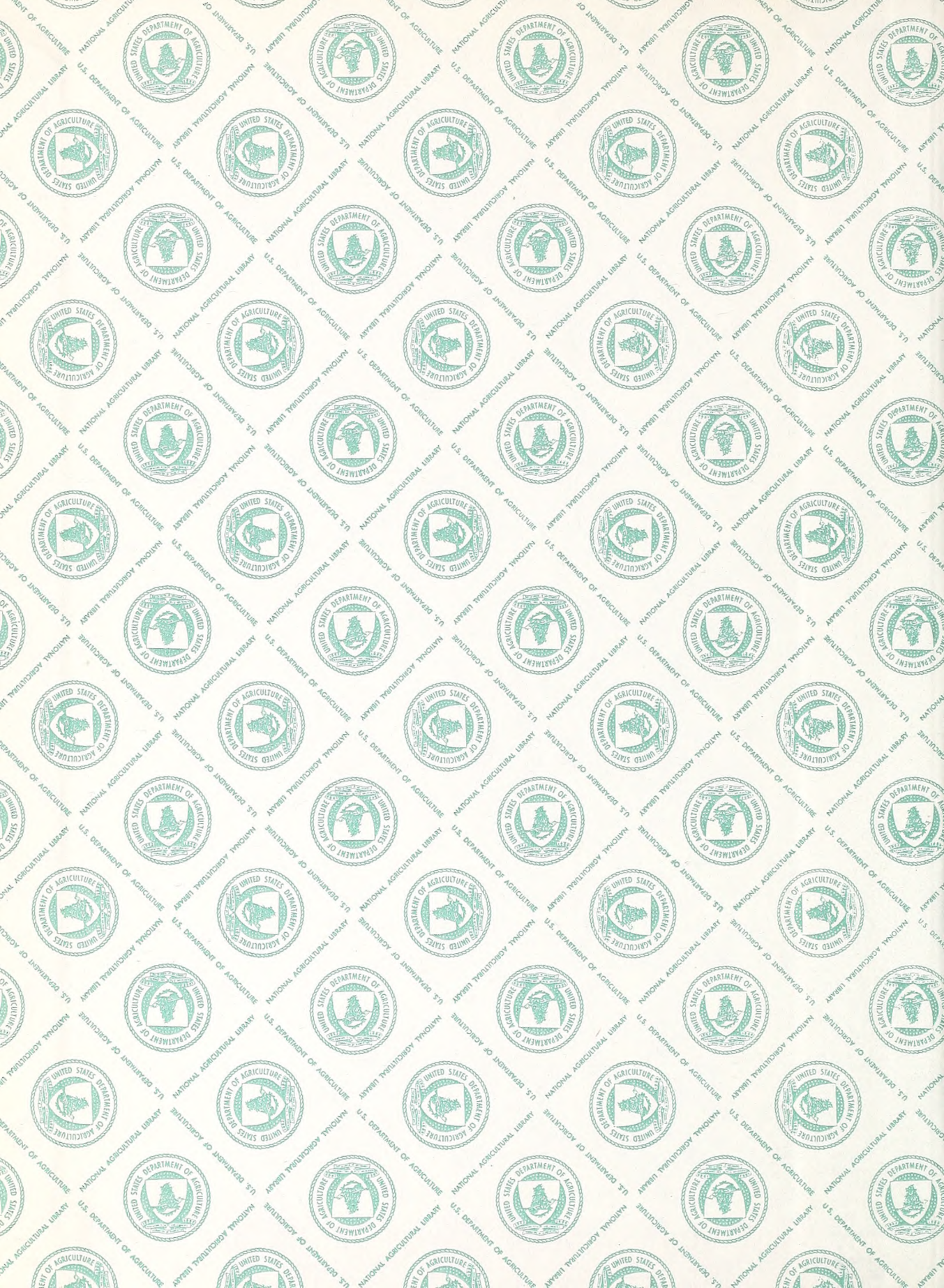
Do not assume content reflects current  
scientific knowledge, policies, or practices.

























84M  
CORE LIST

# Hydrologic Data for Experimental Agricultural Watersheds in the United States 1965

Miscellaneous Publication No. 1216

U. S. DEPT. OF AGRICULTURE  
NATIONAL AGRICULTURAL LIBRARY  
RECEIVED

AUG 18 1972

PROCUREMENT SECTION  
CURRENT SERIAL RECORDS

Agricultural Research Service  
U.S. DEPARTMENT OF AGRICULTURE

In Cooperation With  
State Agricultural Experiment Stations

**360574**

5001  
**Hydrologic Data**  
**for**  
**Experimental Agricultural**  
**Watersheds**  
**in the United States**  
**1965**

Compiled by  
**JAMES B. BURFORD**  
Soil and Water Conservation Research Division

Miscellaneous Publication No. 1216

**Agricultural Research Service**  
**U.S. DEPARTMENT OF AGRICULTURE**

**In Cooperation With**  
**State Agricultural Experiment Stations**

Washington, D.C.

Issued June 1972

---

For sale by the Superintendent of Documents, U.S. Government Printing Office,  
Washington, D.C. 20402 - Price \$4.75  
Stock Number 0100-1559



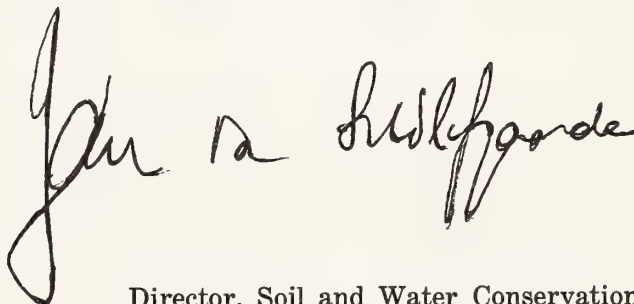


## FOREWORD

This publication presents annual basic data on monthly precipitation and runoff; long-term monthly precipitation means for the locality; annual maximum discharges and volumes of runoff; daily air temperature, precipitation, and discharge (for some areas); and selected runoff events, with associated data on rainfall, land use, and antecedent conditions for agricultural watersheds where research studies were in progress during the calendar year 1965. Its presentation is a continuation of the activity of processing and releasing hydrologic data of general interest gathered cooperatively with other agencies.

Throughout the life of the watershed studies, from which these data are derived, the State agricultural experiment stations have collaborated in the selection, planning, and operation of the research studies. In several cases, the U.S. Geological Survey and State and local agencies, such as State water boards and highway departments of local drainage and conservation districts, have assisted in the work. The classification and correlation of soils and evaluation of other watershed characteristics in the descriptions have been based mostly on field surveys of the Soil Conservation Service.

These data were collected originally for purposes of specific research objectives, which have been largely attained. It is recognized, however, that they can serve many purposes in addition to those for which they were originally gathered. Thus, this release is intended to provide information to other governmental agencies, university staff members, graduate students, private engineers, and others who need detailed, factual information concerning the hydrologic performance of agricultural watersheds. High-quality hydrologic data such as these have historical value in addition to providing a basis for hydrologic research and design and evaluation of projects and programs for conservation and development of the Nation's water resources.

A handwritten signature in dark ink, reading "John A. Hultfand". The signature is written in a cursive style with a large, stylized initial "J".

Director, Soil and Water Conservation  
Research Division

# CONTENTS

	<i>Page</i>
Publications of earlier data .....	1
Form of data presentation .....	3
Continuing watersheds .....	3
New watersheds .....	4
Watershed descriptions .....	4
Standard symbols for tabular data .....	7
Revisions of previously published data .....	8
Personnel responsible for compilations .....	8
Additional publications by location .....	9
United States index map and related data .....	11
Location of experimental agricultural watersheds of the Agricultural Research Service (1965) by land resource regions and major land resource areas of the United States .....	12
Legend for land resource regions and major land resource areas of the 48 conterminous States .....	13
Table 1—Experimental agricultural watersheds, listed by States and locations, which were under study during 1965 and are included in this publication .....	14
Table 2—Watershed, listed by State, where observations were discontinued during the 1964 calendar year .....	14
Table 3—List, by States, of additions or revisions made herein to data published prior to 1965 .....	15
Watershed data by location number and decimal paging (8.1-1 to 75.4-6, a total of 551 data sheets) .....	17

The decimal system of paging is used to index the watershed data. Pages are numbered at the bottom according to location and watershed number, and the data for each watershed are given on one or more pages. For example, page 8.2-2 is location 8 (Vero Beach, Fla.), Watershed 2 (W-2 at Vero Beach), and page 2 of the data for that watershed.

For convenience in finding items listed in tables 2 and 3 and in the "Contents" above, pages are also numbered consecutively at the top.

Table 1, page 14, shows a list of continuing or new watersheds by State, locality, land resource area, assigned location numbers, watershed units, and number of selected runoff events that are reported for 1965 in this publication. In table 2, page 14, discontinued watersheds are listed by State, locality, land resource area, number of units, record period, and location number. Table 3, page 15, lists revisions or additions to watershed descriptions or data.

## **Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1965**

This publication presents selected hydrologic data for the calendar year 1965. The data include monthly precipitation and runoff summaries for 188 watersheds; annual maximum discharges and annual maximum volumes of runoff for 177 of the watersheds for time intervals of 1, 2, 6, and 12 hours and for 1, 2, and 8 days; daily precipitation and discharge or daily air temperature for 128 watersheds, or both; and detailed information for one or more selected typical storm events for 122 watersheds. The decimal page numbering system used (see explanation on page iv) is consistent with that used at the bottom of pages in the eight previous publications (see next section), so that previous published records and general descriptions can be readily found and consulted.

Information on selected storm events includes (1) tabular data for the 30-day antecedent rainfall and runoff before the events, (2) data on rainfall intensities and runoff rates for the event and on accumulated depths of rainfall and runoff, (3) description of watershed conditions at the time of the selected events, (4) plottings of runoff hydrographs and rainfall histograms, (5) watershed maps, and (6) for some of the larger drainage areas, isohyetal maps of storm rainfall distribution.

For newly established watersheds, descriptions of watershed physical characteristics, instrumentation, graphs, maps, land management, and recommended area of application of the results are also given. Original descriptions of characteristics have been revised or updated for several watersheds and are listed in table 3, with details given in the respective data sheet for each watershed.

### **PUBLICATIONS OF EARLIER DATA**

Hydrologic data for past years on many of the currently operating experimental agricultural watersheds have been previously summarized in three looseleaf publications (reprints in bound volumes) by the Agricultural Research Service of the U.S. Department of Agriculture, Beltsville, Md. 20705. These reports, listed as References 1, 2, and 3, are described in the following summary. Beginning with the hydrologic data for 1956 through 1964 calendar years, the types of data previously published separately in these three references were combined in U.S. Department of Agriculture Miscellaneous Publications Nos. 945, 994, 1070, 1164, and 1194. These are listed below as References 4, 5, 6, 7, and 8. All eight publications have been assigned these reference numbers to simplify citations to them in this and future publications:

**Reference 1.**—MONTHLY PRECIPITATION AND RUNOFF FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. Soil and Water Conservation Research Branch, 691 pp. 1957. (Includes physical descriptions and land use of 334 experimental agricultural watersheds at 60 locations in 27 States for the period 1923 through 1957. Many of these watersheds were discontinued before 1955.)

**Reference 2.**—ANNUAL MAXIMUM FLOWS FROM SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. Soil and Water Conservation Research Division, 330 pp. 1958. (Includes records from 322 watersheds at 59 locations in 27 States for the period 1923 through 1957. Many of these watersheds were discontinued before 1957.)



**Reference 3.—SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES.** Soil and Water Conservation Research Division, 374 pp. 1960. (Includes a sampling of one to six typical runoff events from 68 watersheds at 40 locations in 25 States for the period 1933 through 1959. The publication presents maps of each watershed, watershed conditions for each event—including the 30-day antecedent rainfall and runoff—and tabular as well as graphical data on each storm.)

**Reference 4.—HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956–59.** Harold W. Hobbs, Soil and Water Conservation Research Division, Agricultural Research Service, USDA Miscellaneous Publication No. 945, 672 pp. 1963. (Includes monthly precipitation and runoff from 157 watersheds, including 45 newly established watersheds for which data had not been previously published; annual maximum discharges and annual maximum volumes for 1 hour to 8 days for 142 watersheds; and one or more typical selected runoff events for 134 watersheds. The publication presents watershed maps, when new or revised, and graphs of each selected event, together with tabular data. Locations of experimental studies are shown on U.S. fold-in map of land resource areas in 48 States.)

**Reference 5.—HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960–61.** Harold W. Hobbs and Florence B. Crammatte, Soil and Water Conservation Research Division, Agricultural Research Service, USDA Miscellaneous Publication No. 994, 496 pp. 1965. (Contains monthly precipitation and runoff from 160 watersheds, including 24 newly established watersheds for which data had not been previously published; annual maximum discharges and annual maximum volumes for 1 hour to 8 days for 145 watersheds; and one or more typical selected runoff events for 133 watersheds. The publication presents watershed maps, either new or revised, and graphs of each selected event, together with corresponding tabular data. Table 4 gives a listing of selected runoff events published through 1961 for each watershed.)

**Reference 6.—HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962.** Harold W. Hobbs, Soil and Water Conservation Research Division, Agricultural Research Service, USDA Miscellaneous Publication No. 1070, 447 pp. 1968. (Contains monthly precipitation and runoff from 164 watersheds, including 13 watersheds for which data had not been previously published; annual maximum discharges and annual maximum volumes for 1 hour to 8 days for 155 watersheds; and one or more typical selected runoff events, presented in both tabular and graphical forms for 136 watersheds. Selected runoff events published through 1962 for each of the watersheds are listed in table 4. Several watershed maps, either new or revised, are presented.)

**Reference 7.—HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963.** Harold W. Hobbs and J. B. Burford, Soil and Water Conservation Research Division, Agricultural Research Service, USDA Miscellaneous Publication No. 1164, 465 pp. 1970. (Contains monthly precipitation and runoff from 168 watersheds, including nine watersheds for which data had not been previously published; annual maximum discharges and annual maximum volumes for 1 hour to 8 days for 156 watersheds; and one or more typical selected runoff events presented in both tabular and graphical form for 142 watersheds. Selected runoff events published through 1963 for each of the watersheds are summarized in table 4. Several watershed maps, either new or revised, are presented.)

**Reference 8.—HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964.** J. B. Burford, Soil and Water Conservation Research Division, Agricultural Research Service, USDA Miscellaneous Publication No. 1194, 460 pp. 1971. (Contains monthly precipitation and runoff from 163 watersheds, including 8 watersheds for which data had not been previously published; annual maximum discharges and annual maximum volumes for 1 hour to 8 days for 163 watersheds; and one or more typical selected runoff events presented in both tabular and graphical form for 143 watersheds. Several watershed maps, either new or revised, are presented.)

Copies of the foregoing eight publications have been furnished to the Soil Conservation Service and to other governmental agencies—Federal, State, and local. They have also been distributed to State agricultural experiment stations, university libraries and engineering departments, and, when requested, to private engineers and individuals. Distribution has also been made to similar foreign institutions and individuals.

## FORM OF DATA PRESENTATION

The data in this volume are presented for each watershed in the following order: (1) watershed description, if not previously published; (2) monthly precipitation and runoff; (3) average monthly precipitation and runoff for period of record; (4) local mean monthly precipitation (previously called normal P in publications through 1961 (Reference 5)); (5) annual maximum flows; (6) daily temperature extremes, daily precipitation, and discharge for some watersheds; (7) tabulations of data for selected runoff events; (8) graphs of selected runoff events; (9) watershed maps, if not previously published or if revised; and (10) isohyetal maps (in some cases) of storm rainfall distribution for selected runoff events.

### Continuing Watersheds

For current watersheds, for which the descriptive information has been published in References 1, 4, 5, 6, 7, or 8, the tabular data presentation begins at the top of the first page. Above the border at the center, the numerical page number is given, and the decimal page number is shown at the bottom.

In the space to the right of the first table title, MONTHLY PRECIPITATION AND RUNOFF (inches), the location *name*, watershed *number* (or designation), and watershed *size* are given. In the table, for the current *calendar* year, the *precipitation* (P) in inches is listed in the monthly columns, with the yearly total given in the last column headed Annual. In the line below, the corresponding *runoff* (Q) in inches is similarly listed for each month and the total for the year. Underneath, in two lines, are given the (P) and (Q) station average amounts (STA AVG) by months, with average annual

total for the period of record. On the bottom line of the table are given the long-term monthly and annual precipitation means (averages) for the nearest U.S. Weather Bureau Station.

In the second table, entitled ANNUAL MAXIMUM DISCHARGES (INCHES PER HOUR) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (IN INCHES) FOR SELECTED TIME INTERVALS, data are also given for the *calendar* year listed in the first column. Under the *maximum discharge* heading, the data column shows the day and month that the instantaneous peak rate in inches per hour occurred. In computing the rate, corrections were made, where needed, for any significant pondage above the runoff measuring device. Under the *maximum volume* heading, the data refers to the day and month on which the interval began; for example, if the interval began August 30 at 2359 the entry in the data column will be 8-30. The depths for 1 hour to 8 days are the annual maximum values recorded, without regard to whole clock hours or days; thus, if the 6-hour interval began at 1332, the interval would end exactly 6 hours later at 1932. The volume given is in inches of average depth over the watershed for each of the seven selected time intervals (1, 2, 6, and 12 hours, and 1, 2, and 8 days). In the last section of the table, the maximum discharges and depths for the various time periods are given under MAXIMUMS FOR PERIOD OF RECORD.

Notes and footnotes in explanation of the data, given below the first two tables, include (1) a general statement as to watershed conditions and other physical changes for the period covered; (2) corrections or revisions for previously reported data; (3) source of long-term precipitation means or averages and years covered; and (4) other pertinent material or explanations of the hydrologic data in the two tables.

Before the 1963 volume, statements of the estimated quality of P and Q records were given in these notes. Beginning with the 1963 volume, no quality statements are given *if* the records are considered to be *excellent* (accurate within 5 percent). However, if they are judged to be *less* than excellent, such as *good* (within 10 percent), *fair* (within 15 percent), or *poor*



(more than 15 percent in error) an accuracy statement is placed ahead of the general statement on watershed conditions. The accuracy statements are given as general footnotes to the daily tables, when presented. Reevaluations of previously published records are also given in these footnotes.

For some watersheds, tables of DAILY AIR TEMPERATURE (maximum and minimum in degrees Fahrenheit), DAILY PRECIPITATION (inches), or MEAN DAILY DISCHARGE (c.f.s.) are given next, with appropriate footnotes in explanation of the data at the end of each table. The multiplier to convert mean daily discharge in cubic feet per second to inches per day is given as the first note to the daily discharge table. The conversion factor for daily inches to acre-feet is sometimes given.

If no daily tables are given, the tabular data for SELECTED RUNOFF EVENTS begin in the remaining space on the first page and then are carried forward on continuation sheets (or pages) until completed. In general, the SELECTED RUNOFF EVENTS were those in which runoff was produced by a relatively uniform rainfall excess of short duration. The information for each event includes tabulation of (1) *antecedent* daily rainfall and runoff for 30 days before the event, or reference made to daily tables, if used; (2) rainfall *intensities* and *accumulated amounts* for the event; (3) runoff *rates* and *accumulated amounts* for the event; and (4) specific *watershed conditions* at the time of the event. Simple graphs of the rates of rainfall and runoff are shown for all events on pages following the tabular data.<sup>1</sup> Maps follow the graphs unless previously published in References 3, 4, 5, 6, 7, or 8, or unless shown herein on the map of another watershed. Isohyetal maps, if any, generally follow the regular maps.

In the "Notes" space at the bottom of the first page for runoff events, the multiplier to convert runoff rates in inches per hour to cubic feet per second, or vice versa, is given, followed by references to maps, if required, and explanatory notes or footnotes relating to

the tabular data. Below the bottom border and above the first index page number, the cooperating agencies are listed. The notes on continuation pages contain the statement on the multiplier and similar explanations of the data on each page.

## New Watersheds

For the 22 watersheds installed in recent years that have not been reported previously, the presentation begins with the watershed description in the upper part of the first page. The explanations and definitions upon which the description is based are given in the next section.

The first line, centered at the top of the sheet, gives the *project location*, which is the nearest city or town, and the number or name of the watershed as used locally. The descriptive material is then given under the 12 major topics listed generally down the left side of the sheet: *Location, Area, Slopes, Erosion, Land Capability, Geology, Surface Drainage, Soils, Character of Flow, Instrumentation, Watershed Conditions, and Generally Represents*.

After this description, the tabular data are then summarized in the first two tables and notes, as previously described for "Continuing Watersheds." The tabular data for daily air temperatures, precipitation, and discharge, if presented, precede the tabular data for SELECTED RUNOFF EVENTS. The rest of the material of the series for the particular watershed follows in the same order as previously indicated.

## WATERSHED DESCRIPTIONS

The following definitions and explanations were used in describing watershed location, watershed characteristics, instrumentation, land management, and recommended area of application of the hydrologic data.

LOCATION gives county and State, distance and direction of the runoff gaging station from the nearest city or town, and the major river basin in which it lies. When two or more basins are involved the tributary or subbasin is given first, followed by the major basin.

AREA of watershed is given in acres if under 640 acres, and in both acres and square miles

<sup>1</sup> In some cases, noncritical points were eliminated from original tabulations to reduce the number of lines required in the tables for time, rates, and accumulations.

(in parentheses) if over 1 square mile. If areas are revised, additional values are given with notes on date of change.

**SLOPES** are given in terms of the ranges commonly used in soil survey work in the locality. The percentages of the watershed lying in each slope class are listed. As an example, "8% is in 0-2% class" means that 8 percent of the watershed area has slopes ranging from 0 to 2 percent.

**SOILS** are described briefly, according to definitions from the U.S. Department of Agriculture **SOIL SURVEY MANUAL**, Agriculture Handbook 18, published in 1951. Soil descriptions were revised for one of the continuing watersheds and descriptions were given for 22 new watersheds.

**SOIL TEXTURE** refers to the relative proportions of the various size groups (or separates) of individual soil grains in a mass of soil. Specifically, it refers to the proportions of clay, silt, and sand below 2 millimeters in diameter. The various classes of texture in order of increasing percentages of the smaller size groups are (1) sands, (2) loamy sands, (3) sandy loams, (4) loam, (5) silt loam, (6) silt, (7) sandy clay, and (12) clay. In some of the descriptions, the broader classification of coarse, moderately coarse, medium, moderately fine, and fine has been used—the coarse soils are the sands and the fine soils the clays.

**SOIL STRUCTURE** refers to the aggregation of primary soil particles into compound particles, or clusters of primary particles, that are separated from adjoining aggregates by surfaces of weakness. Structure *grade*, or the durability of the aggregates when subjected to disturbance, is described as *structureless*, *weak*, *moderate*, or *strong*. In some cases, the structureless grade is described as *massive*, if coherent, or *single grain*, if noncoherent. The *size* of the aggregates is described as *very fine*, *fine*, *medium*, *coarse*, or *very coarse*. Structure *shape* is described as being *platy*, *prismatic*, *columnar*, *angular blocky*, *subangular blocky*, *granular*, or *crumb*.

**PERMEABILITY** is the quality of a soil that enables it to transmit water or air. This quality is described by the terms *very slow*, *slow*,

*moderately slow*, *moderate*, *moderately rapid*, *rapid*, or *very rapid*.

**INTERNAL SOIL DRAINAGE** is the quality of a soil that permits the downward flow of excess water through it. Internal drainage is reflected in the frequency and duration of periods of saturation with water. It is determined by the texture, structure, and other characteristics of the soil profile and of underlying layers and by the height of the water table, either permanent or perched, in relation to the water added to the soil. **INTERNAL DRAINAGE** is described as *none*, *very slow*, *slow*, *medium*, *rapid*, or *very rapid*.

**EROSION** conditions on the watershed are described in accordance with the following classification for water and wind erosion, also briefed from Agriculture Handbook 18. The percentage of the watershed in the following erosion classes is given.

**Class 1.**—The soil has a few rills or places with thin A horizons that give evidence of accelerated erosion, but not to an extent to alter greatly the thickness and character of the A horizon. Except for soils having very thin A horizons (less than 8 inches), the surface soil consists entirely of A horizon throughout nearly all of the delineated areas. Up to about 25 percent of the original A horizon, or original plowed layer in soils with thin A horizons, has been removed from most of the area. This class also includes the areas of no erosion.

**Class 2.**—The soil has been eroded to the extent that ordinary tillage implements reach through the remaining A horizon or well below the depth of the original plowed layer in soils with thin A horizons. Generally, the plow layer consists of a mixture of the original A horizon and the underlying horizons. Mapped areas of eroded soil usually have patches in which the plow layer consists wholly of the original A horizon, and others in which it consists wholly of underlying horizons. Shallow gullies may be present. Approximately 25 to 75 percent of the original A horizon or surface soil may have been lost from most of the area.

**Class 3.**—The soil has been eroded to the extent that all or practically all of the original surface soil, or A horizon, has been removed. The plow layer consists essentially of materials



from the B or other underlying horizons. Patches in which the plow layer is a mixture of the original A horizon and the B horizon, or other underlying horizons, may be included within mapped areas. Shallow gullies, or a few deep ones, are common in some soil types. More than about 75 percent of the original surface soil, or A horizon, and commonly part or all of the B horizon, or other underlying horizons, has been lost from most of the area.

Class 4.—The land has been eroded until it has an intricate pattern of moderately deep or deep gullies. Soil profiles have been destroyed except in small areas between the gullies. Such land is not useful for crops in its present condition. Reclamation for crop production or for improved pasture is difficult, but may be practicable if other characteristics of the soil are favorable and erosion can be controlled.

Class +.—Recent alluvial and colluvial deposition.

LAND CAPABILITY is given as classified by Klingebiel and Montgomery in U.S. Department of Agriculture LAND-CAPABILITY CLASSIFICATION, Agriculture Handbook 210, published in 1961. The classification expresses the suitability of land for use without deterioration. The eight land-capability classes are distinguished according to the risk of land damage or difficulty of land use. The following classes I to IV are suitable for cultivation and other uses, whereas classes V to VIII are not suitable for cultivation.

Class I.—Very good land for cultivation; nearly level and productive; not subject to erosion; needs only ordinary good farming methods.

Class II.—Good land for cultivation; mostly gently sloping; not more than moderately subject to erosion; some land may be rather wet; can be farmed safely with easily applied practices.

Class III.—Moderately good land for cultivation; mostly moderately sloping; some areas too wet or too dry; can be farmed safely with practical conservation measures, carefully applied; usually a combination of two or more measures is needed.

Class IV.—Fairly good land, suitable for occasional cultivation; generally strongly slop-

ing; often shallow or very sandy; often found in dry climate.

Class V.—Land very well suited for grazing or forestry; requires good range or woodland management.

Class VI.—Land well suited for grazing or forestry; steeply sloping land, stony or shallow soil, eroded land, droughty land, or wet land; requires careful management.

Class VII.—Land fairly well suited for grazing or forestry; severely limited in use by such factors as very steep slope, shallow or droughty soil, wetness, severe erosion, or excessive salinity; requires very careful management.

Class VIII.—Land not suitable for cultivation, grazing, or forestry; may be useful for wildlife, recreation, or protection of water supplies.

GEOLOGY of the 22 new watersheds is described herein. A brief description of the portion of the watershed occupied by various geological formations or series is given, together with strike and dip of the strata, thickness, and relative position, when known. Faults, perched water tables, outcrops, if present, and other details that relate to the movement of water within the drainage area or that affect the hydrology of the watershed are described.

SURFACE DRAINAGE refers to the ease with which excess water flows from the watershed area. The length of principal waterway is the distance from the gaging station to the most remote point on the watershed boundary, measured along the flood plain of the watercourse.

CHARACTER OF FLOW describes the flow of the principal watercourse with respect to permanence and space. The following definitions are from Meinzer's OUTLINE OF GROUND-WATER HYDROLOGY, U.S. Geological Survey Water-Supply Paper 494, published in 1923.

With respect to permanence, streams may be divided into perennial streams, intermittent streams, and ephemeral streams.

A *perennial stream*, or stretch of a stream, is one that flows continuously. Perennial streams are generally fed in part by springs, and their upper surfaces generally stand lower than the water table in the localities through which they flow.

*Intermittent streams* may be divided, with respect to the source of their water, into spring-fed intermittent streams and surface-fed intermittent streams. They also flow in direct response to precipitation.

A *spring-fed intermittent stream*, or stretch of a stream, is one that flows only at certain times when it receives water from springs. The intermittent character of streams of this type is generally caused by fluctuations of the water table whereby the stream channels stand part of the time below and part of the time above the water table. This is the ordinary type of intermittent stream.

A *surface-fed intermittent stream*, or stretch of a stream, is one that flows during protracted periods when it receives water from some surface source, generally the gradual and long-continued melting of snow in a mountainous or other cold tributary area. The term may be arbitrarily restricted to streams or stretches of streams that flow continuously during periods of at least 1 month.

An *ephemeral stream*, or stretch of a stream, is one that flows only in direct response to precipitation. It receives no water from springs and no long-continued supply from melting snow or other surface source. Its stream channel is at all times above the water table. The term may be arbitrarily restricted to streams or stretches of streams that do not flow continuously during periods of as much as 1 month.

With respect to continuity in space, streams may be divided into continuous streams and interrupted streams. An *interrupted stream* is one that contains (1) perennial stretches with intervening intermittent or ephemeral stretches or (2) intermittent stretches with intervening ephemeral stretches. These two classes of interrupted streams are designated, respectively, *perennial interrupted streams* and *intermittent interrupted streams*. A *continuous stream* is one that does not have interruptions in space. It may be perennial, intermittent, or ephemeral, but it does not habitually have wet and dry stretches.

INSTRUMENTATION describes type of runoff control or measuring device, number and type of precipitation gages, type of charts used, and snow courses, if employed.

WATERSHED CONDITIONS describes the general use and farm, forest or range practices before the period of record and the conservation measures, crops, yields, and general cultural operations and practices during the period of record. Rotation crops are listed in the order that they were grown. Operations are described with commonly used agricultural terms, and only those that appear to have a significant relationship to the hydrology of the watershed are mentioned.

GENERALLY REPRESENTS gives the broad area of application for which the data of the specific watershed are recommended. The land resource areas named are those delineated on the map titled "Location of Experimental Agricultural Watersheds of the Agricultural Research Service," presented on pages 12 and 13. Solid circles show the approximate locations of the "continuing" or "new" watersheds; open circles show approximate locations of studies that have been discontinued. In a few cases the circles show the locations of the project headquarters instead of the watershed locations. A larger index map, showing more detail, is included in Reference 4.

In some cases, there is an apparent contradiction between the watershed location on the maps and the descriptive information given under "Generally Represents." This is caused by the small scale of the maps; it is difficult to show many small local variations in boundaries of the land resource areas. The descriptive statements, instead of the map location, should be the guide to the application of the data.

## STANDARD SYMBOLS FOR TABULAR DATA

The following capital letters have been used as standard symbols throughout this volume to designate specific items or meanings:

- A—designates precipitation of unknown time of occurrence, amount generally carried forward.
- E—means that a figure is estimated or partially estimated.
- H—designates precipitation in the form of hail.



L—designates precipitation in the form of sleet or freezing rain.

M—designates mixed precipitation in the form of rain, snow, and sleet.

N—designates precipitation in the form of rain and snow.

NR—when used in place of a figure, means "no record."

P—designates monthly or annual precipitation in inches.

Q—designates monthly or annual runoff in inches.

RG—designates rain gage, generally followed by gage number.

R—followed by hyphen and a number designates recording rain gage.

S—followed by hyphen and a number designates standard rain gage.

S—designates precipitation in the form of snow.

STA AV (or AVG)—designates station average for period of record.

T—denotes a trace, generally less than 0.005 inch of precipitation and 0.01 inch of runoff (or 0.0001 inch of runoff, if four decimal places are used).

Time of day symbols or designations *a*, *p*, *m*, and *n* used in previous publications through 1961 have been dropped and military time (0001 to 2400) substituted for 1962 forward. Unless stated otherwise, time used in tables is eastern, central, mountain, or Pacific standard time, whichever applies to the given location.

## REVISIONS OF PREVIOUSLY PUBLISHED DATA

In some instances, it has been necessary to revise previously published data on specific watersheds. If the corrections involve changed values of monthly precipitation, or runoff, or annual maximum discharges, or maximum volumes for various durations, whole lines for the year are republished with the changed items *underlined*. These revisions are explained in footnotes following the tables in which they appear.

If additions or revisions are made to watershed descriptions, they are placed after the

above-mentioned tables. In some cases, a statement on geology has been added to the original descriptions. The geology for the 22 new watersheds is also described. The foregoing changes are listed by States in table 3, page 15.

## PERSONNEL RESPONSIBLE FOR COMPILATIONS

At each research location, many individuals have contributed to the planning and establishment of the watersheds and the collection, compilation, and analysis of the data. Some of those who made substantial contributions to the success of the research work behind this report are:

<i>Location</i>	<i>Name or names</i>
8	William H. Speir, John C. Stephens
10	Aurelius P. Barnett
13, 66	James B. Burford, Jan C. Carr, Vernon O. Shanholtz
21, 25	Larry A. Kramer, Keith E. Saxton
26	Lloyd L. Harold
29, 31, 32	Neal E. Minshall
34, 37	Wendell R. Gwinn, William O. Ree, Francis L. Wimberley
42	Walter G. Knisel, Jimmy R. Williams
44	Frank J. Dragoun
45, 47, 63, 64	Donald L. Chery, Jr., Orfelio Garcia
62	William A. Champion, Farris E. Dendy, Mary A. Marshall, Robert B. Wilson
65	Clayton Hanson, Armine R. Kuhlman
67	George H. Comer, Martin L. Johnson, S. H. Kunkle
68	John M. Clark, Clifton W. Johnson
69	Donn G. DeCoursey, Monroe A. Hartman, Arlin D. Nicks, Russel Schoff, Oscar D. Workman, Edd D. Rhoades
75	William C. Mills, John C. Stephens, Loris E. Asmusen



## ADDITIONAL PUBLICATIONS BY LOCATION

In References 1, 4, 5, 6, 7, and 8 (see pp. 1 and 2), citations to other publications that presented watershed data and interpretations of results in various journals, bulletins, and periodicals are given at the end of the introductions for many of the locations. Following is a listing, by location number, of additional references to results that were reported through 1965. Several items of general application to the overall program of hydrology that could not be tied to a specific location are included at the end of the listing under General References.

8. *Vero Beach, Fla.*  
MILLS, W. C.  
1965. STORM RAINFALL IN CENTRAL AND SOUTHERN FLORIDA. *Soil and Crop Sci. Soc. Fla. Proc.* 25: 311-319.
25. *McCredie, Mo.*  
MINSHALL, N. E., and JAMISON, V. C.  
1965. INTERFLOW IN CLAYPAN SOILS. *Amer. Geophys. Union, Water Resources Res.* 1(3): 381-390.  
  
WOOLHISER, D. A., and SAXTON, K. E.  
1965. COMPUTER PROGRAM FOR THE REDUCTION AND PRELIMINARY ANALYSES OF RUNOFF DATA. U.S. Dept. Agr. ARS 41-109, 33 pp.
26. *Coshocton, Ohio*  
AMERMAN, C. R.  
1965. THE USE OF UNIT-SOURCE WATERSHED DATA FOR RUNOFF PREDICTION. *Water Resources Res.* 1(4): 499-507.  
  
HARROLD, L. L., and DREIBELBIS, F. R.  
1965. ROLE OF THE SOIL IN UPLAND WATER SUPPLY AND FLOODS. *Jour. Soil and Water Conserv.* 20(4): 179-180.  
  
MCGUINNESS, J. L., and HARROLD, L. L.  
1965. ROLE OF STORM SURVEYS IN SMALL WATERSHED RESEARCH. *Water Resources Res.* 1(2): 219-222.  
  
URBAN, J. B.  
1965. GEOLOGIC AND HYDROLOGIC SIGNIFICANCE OF SPRINGS AND SEEPS IN EASTERN OHIO. *Jour. Soil and Water Conserv.* 20(4): 178-179.
37. *Stillwater, Okla.*  
HICKOCK, R. B., and REE, W. O.  
1965. INSTRUMENTATION OF EXPERIMENTAL WATERSHEDS. *Internatl. Assoc. Sci. Hydrol.* 66: 286-296.
42. *Riesel, Tex.*  
KNISEL, W. G., JR.  
1965. RAINFALL FREQUENCY ANALYSIS FOR 1- TO 15-DAY DURATIONS IN THE BLACKLANDS OF TEXAS. U.S. Dept. Agr. ARS 41-106, 13 pp.
44. *Hastings, Nebr.*  
RICE, W. L., and DRAGOUN, F. J.  
1965. EFFECTS OF RUNOFF VOLUMES FROM PERENNIAL PRARIE GRASS SEEDED ON CULTIVATED LAND. *Jour. Soil and Water Conserv.* 20(2): 63-64.  
——— and DRAGOUN, F. J.  
1965. SEEDING REDUCES RUNOFF 93 PERCENT. *Agr. Res.* 13(11): 16.
62. *Oxford, Miss.*  
DOTY, C. W., and CARTER, C. E.  
1965. RATES AND PARTICLE-SIZE DISTRIBUTION OF SOIL EROSION FROM UNIT SOURCE AREAS. *Amer. Soc. Agr. Engr. Trans.* 8(3): 309-311.  
  
PIEST, R. F.  
1965. THE ROLE OF THE LARGE STORM AS A SEDIMENT CONTRIBUTOR. *Fed. Inter-Agency Sedimentation Conf. Proc.* 1963. U.S. Dept. Agr. Misc. Pub. 970: 98-108.  
  
URSIC, S. J., and DENDY, F. E.  
1965. SEDIMENT YIELDS FROM SMALL WATERSHEDS UNDER VARIOUS LAND USES AND FOREST COVERS. *Fed. Inter-Agency Sedimentation Conf. Proc.* 1963. U.S. Dept. Agr. Misc. Pub. 970: 47-52.
63. *Tombstone, Ariz.*  
OSBORN, H. B., and KEPPEL, R. V.  
1965. DENSE RAIN GAGE NETWORKS AS A SUPPLEMENT TO REGIONAL NETWORKS IN SEMIARID REGIONS. *Internatl. Assoc. Sci. Hydrol. Symp., Design Hydrological Networks Proc.*, 68: 675-687.
67. *North Danville, Vt.*  
JOHNSON, M.  
1965. WATERSHED RESEARCH IN SLEEPERS RIVER BASIN, DANVILLE, VERMONT. U.S. Dept. Agr. Unnumbered Pub., 4 pp.
68. *Boise, Idaho (Reynolds Creek)*  
COOPER, C. F.  
1965. MEASURING SNOWFALL ACCUMULATION . . . FROM THE AIR. *Agr. Res.* 13(9): 3-4.  
———  
1965. SNOW COVER MEASUREMENT. *Photogrammetric Engin.* 31(4): 611-619.

HAMON, W. R., and JOHNSON, C. W.

1965. WATERSHED HYDROLOGY RESEARCH—REYNOLDS CREEK EXPERIMENTAL WATERSHED. *In* Development of the Total Watershed, Amer. Soc. Civ. Engin., Irrig. Drain. Specialty Conf. 1965, pp. 181–207.

——— JOHNSON, C. W., STEPHENSON, G. R., and SMITH, F. M.

1965. DEVELOPMENT OF COORDINATED HYDROLOGIC NETWORKS FOR A SEMIARID WATERSHED. Internatl. Assoc. Sci. Hydrol. Symp., Design Hydrological Networks Proc., 68: 663–674.

——— and ROSA, J. M.

1965. USE OF EXPERIMENTAL WATERSHED DATA IN PREDICTING THE WATER BALANCE. Internatl. Assoc. Sci. Hydrol. 66: 252–261.

JOHNSON, C. W.

1965. PRECIPITATION, RUNOFF, AND SEDIMENT YIELD FOR FLOOD EVENTS OF DECEMBER 1964 AND JANUARY 1965 ON REYNOLDS CREEK EXPERIMENTAL WATERSHED, SOUTHWEST IDAHO. Columbia Basin Inter-Agency Committee Proc. 1965, 6 pp.

NEFF, E. L.

1965. PRINCIPLES OF PRECIPITATION NETWORK DESIGN FOR INTENSIVE HYDROLOGIC INVESTIGATIONS. Internatl. Assoc. Sci. Hydrol. Symp., Design Hydrological Networks Proc., 67: 49–55.

ROBINS, J. S., KELLY, L. L., and HAMON, W. R.

1965. REYNOLDS CREEK IN SOUTHWEST IDAHO: AN OUTDOOR HYDROLOGIC LABORATORY. Water Resource Research 1(3): 407–413.

STEPHENSON, G. R.

1965. NETWORK DESIGN FOR GROUND-WATER STUDIES IN A SMALL WATERSHED. Internatl. Assoc. Sci. Hydrol. Symp., Design Hydrological Networks Proc., 68: 456–465.

69. *Chickasha, Okla.*

DECOURSEY, D. G.

1965. WATER YIELD COMPUTATIONS. Amer. Soc. Agr. Engin. Trans. 8(3): 367–370.

NICKS, A. D.

1965. FIELD EVALUATION OF RAIN GAGE NETWORK DESIGN PRINCIPLES. Internatl. Assoc. Sci. Hydrol. Symp., Design Hydrological Networks Proc., 67: 87–93.

71. *Treynor, Iowa*

MINSHALL, N. E., and SPOMER, R. G.

1965. NEW TYPE WEIR CONSTRUCTION FOR SMALL WATERSHEDS. [Amer. Soc. Civ. Engin. Proc. paper 4243] Amer. Soc. Civ. Engin., Irrigation and Drainage Div. Jour. 91 (IR1): 11–15.

## General References

BRAKENSIEK, D. L.

1965. DISCUSSION: "COMPUTER ANALYSIS OF OVERLAND FLOW" by J. R. Morali and R. K. Linsley, [Amer. Soc. Civ. Engin. Proc. paper 4325] Amer. Soc. Civ. Engin., Hydraul. Div. Jour. 91 (HY6): 234–236.

——— and COMER, G. H.

1965. A RE-EXAMINATION OF A FLOOD ROUTING METHOD COMPARISON. Jour. Hydrol. 3: 225–230.

HARROLD, L. L., and STEPHENS, J. C.

1965. EXPERIMENTAL WATERSHEDS FOR RESEARCH ON UPSTREAM SURFACE WATERS. Internatl. Assoc. Sci. Hydrol. 66: 39–53.

HERSHFIELD, D. M.

1965. METHOD FOR ESTIMATING PROBABLE MAXIMUM RAINFALL. Amer. Water Works Assoc. Jour. 57(8): 965–972.

1965. ON THE SPACING OF RAIN GAGES. Internatl. Assoc. Sci. Hydrology Symp., Design Hydrological Network Proc., 67: 72–79.

HOLTAN, H. N.

1965. A MODEL FOR COMPUTING WATERSHED RETENTION FROM SOIL PARAMETERS. Jour. Soil and Water Conserv. 20(3): 91–94.

——— ENGLAND, C. B., and WHELAN, D. E.

1965. HYDROLOGIC CHARACTERISTICS OF SOIL TYPES. *In* Development of the Total Watershed, Amer. Soc. Civ. Engin. Irrig. Drain. Specialty Conf., pp. 279–295.

——— and OVERTON, D. E.

1964. STORAGE-FLOW HYSTERESIS IN HYDROGRAPH SYNTHESIS. Jour. of Hydrology (2): 309–323.

——— and WHELAN, D. E.

1965. NATIONAL SUMMARIES AND ANALYSES OF EXPERIMENTAL WATERSHED DATA. Internatl. Assoc. Sci. 66: 351–360.

KELLY, L. L.

1965. RESEARCH ON SNOW HYDROLOGY. 33d Ann. West Snow Conf. Proc., Colo. State Univ., pp. 8–10.

——— and GLYMPH, L. M., JR.

1965. EXPERIMENTAL WATERSHEDS AND HYDROLOGIC RESEARCH. Internatl. Assoc. Sci. Hydrol. 66: 5–11.

SHANHOLTZ, V. O., and HOLTAN, H. N.

1965. COMPUTER PROGRAM USHL NO. 2—WATER SURFACE PROFILES FOR SPATIALLY VARIED FLOW IN NATURAL CHANNELS. U.S. Dept. of Agr. ARS 41–101, 38 pp.

STEPHENS, J. C.

1965. DISCUSSION: ESTIMATING EVAPORATION FROM ISOLATION, by Robert K. Lane. Amer. Soc. Civ. Engin. Proc., Hydraul. Div. Jour. 91 (HY5): 171–182.

**UNITED STATES INDEX MAP AND RELATED DATA**

---

[Pages 12 through 15]



# LOCATION OF EXPERIMENTAL AGRICULTURAL WATERSHEDS OF THE AGRICULTURAL RESEARCH SERVICE (1965)

LAND RESOURCE REGIONS  
BY  
AND  
MAJOR LAND RESOURCE AREAS  
OF THE  
UNITED STATES  
(48 contiguous states)

KEY TO RESEARCH LOCATIONS  
● Current continuing studies  
○ Discontinued locations

37

33

NOTE: Location 16 was not used



SCALE IN MILES  
0 100 200 300

LEGEND

T - Land Resource Region  
— Boundaries  
59 - Major Land Resource Area  
--- Boundaries  
— State Lines



# LEGEND FOR LAND RESOURCE REGIONS AND MAJOR LAND RESOURCE AREAS (OF THE 48 CONTEMPORARY STATES)

A

NORTHWESTERN FOREST, FORAGE, AND SPECIALTY CROP REGION

- 1 Northern Pacific Coast Range and Valleys
- 2 Willamette and Puget Sound Valleys
- 3 Olympic and Western Slope Cascade Mountains
- 4 California Coastal Redwood Belt
- 5 Siskiyou-Trinity Area

B

NORTHWESTERN WHEAT AND RANGE REGION

- 6 Eastern Slope Cascade Mountains
- 7 Columbia Basin
- 8 Columbia River
- 9 Palouse and Nez-Percé Prairies
- 10 Upper Snake River Lava Plains and Hills
- 11 Snake River Plains
- 12 Lost River Valleys and Mountains
- 13 Eastern Idaho Plateaus

C

CALIFORNIA SUBTROPICAL FRUIT, TRUCK AND SPECIALTY CROP REGION

- 14 Central California Valley
- 15 Central California Coast Range
- 16 California Delta
- 17 Sacramento and San Joaquin Valleys
- 18 Sierra Nevada Foothills
- 19 Southern California Coastal Plain
- 20 Southern California Mountains

D

WESTERN RANGE AND IRRIGATED REGION

- 21 Klamath and Shasta Valleys and Basins
- 22 Sierra Nevada Range
- 23 Malheur High Plateau
- 24 Humboldt Plateau
- 25 Owens Valley
- 26 Carson Basin and Mountains
- 27 Fallon-Lovelock Area
- 28 Great Salt Lake Area
- 29 Southern Nevada Basin and Range
- 30 Sonoran Basin and Range
- 31 Imperial Valley
- 32 Northern Intermountain Desertic Basins
- 33 Semiarid Rocky Mountains
- 34 Great Basin Desertic Basins, Mountains and Plateaus
- 35 Colorado and Green River Plateaus
- 36 New Mexico and Arizona Plateaus and Mesas
- 37 San Juan River Valley Mesas and Plateaus
- 38 Black, Hualapai, and Cerbat Mountains
- 39 Arizona and New Mexico Mountains
- 40 Central Arizona Basin and Range
- 41 Southeastern Arizona Basin and Range
- 42 Southern Desertic Basins, Plains and Mountains

E

ROCKY MOUNTAIN RANGE AND FOREST REGION

- 43 Northern Rocky Mountains
- 44 Northern Rocky Mountain Valleys
- 45 Alpine Meadows and Ruckland
- 46 Northern Rocky Mountain Foothills
- 47 Wasatch and Uinta Mountains
- 48 Southern Rocky Mountains
- 49 Southern Rocky Mountain Foothills
- 50 San Luis Valley
- 51 High Intermountain Valleys

Compiled by Morris E. Austin

Information from SCS, State, and other Offices

F

NORTHERN GREAT PLAINS SPRING WHEAT REGION

- 52 Brown Glaciated Plain
- 53 Dark Brown Glaciated Plain
- 54 Rolling Soft Shale Plain
- 55 Black Glaciated Plains
- 56 Red River Valley of the North
- 57 Western Minnesota Forest-Prairie Transition

G

WESTERN GREAT PLAINS RANGE AND IRRIGATED REGION

- 58 Northern Rolling High Plains
- 59 Northern Smooth High Plains
- 60 Pierre Shale Plains and Badlands
- 61 Black Hills Foothills
- 62 Black Hills
- 63 Rolling Pierre Shale Plains
- 64 Mixed Sandy and Silty Tableland
- 65 Nebraska Sand Hills
- 66 Northern Plains Glaciated Tableland
- 67 Central High Plains
- 68 Irrigated Upper Plateau River Valley
- 69 Upper Arkansas Valley Rolling Plains
- 70 Pecos-Canadian Plains and Valleys

H

CENTRAL GREAT PLAINS WINTER WHEAT AND RANGE REGION

- 71 Central Nebraska Loess Hills
- 72 Central High Tableland
- 73 Rolling Plains and Breaks
- 74 Central Kansas Sandstone Hills
- 75 Great Plains
- 76 Bluestem Hills
- 77 Southern High Plains
- 78 Central Rolling Red Plains
- 79 Great Bend Sand Plains
- 80 Central Rolling Red Prairies

I

SOUTHWESTERN PLATEAUS AND PLAINS, RANGE AND COTTON REGION

- 81 Edwards Plateau
- 82 Texas Central Basin
- 83 Rio Grande Plain

J

SOUTHWESTERN PRAIRIES, COTTON AND FORAGE REGION

- 84 Cross Timbers
- 85 Grand Prairie
- 86 Texas Blackland Prairie
- 87 Texas Claypan Area

K

NORTHERN LAKE STATES FOREST AND FORAGE REGION

- 88 Northern Minnesota Swamps and Lakes
- 89 Minnesota Rockland Hills
- 90 Central Wisconsin and Minnesota Thin Loess and Till
- 91 Wisconsin and Minnesota Sandy Outwash
- 92 Superior Lake Plain
- 93 Northern Michigan and Wisconsin Stony, Sandy and Rocky Plains and Hills
- 94 Northern Michigan Sandy Drift

L

LAKE STATES FRUIT, TRUCK, AND DAIRY REGION

- 95 Southeastern Wisconsin Drift Plain
- 96 Western Michigan Fruit Belt
- 97 Southwestern Michigan Fruit and Truck Belt
- 98 Southern Michigan Drift Plain
- 99 Southern Michigan Fruit and Truck Area
- 100 Erie Fruit and Truck Area
- 101 Ontario-Mohawk Plain

M

CENTRAL FEED GRAINS AND LIVESTOCK REGION

- 102 Loess, Till, and Sandy Prairies
- 103 Central Iowa and Minnesota Till Prairies
- 104 Eastern Iowa and Minnesota Till Prairies

(continued)

- 105 Northern Mississippi Valley Loess Hills
- 106 Nebraska and Kansas Loess-Drift Hills
- 107 Iowa and Missouri Deep Loess Hills
- 108 Illinois and Iowa Deep Loess and Drift
- 109 Iowa and Missouri Heavy Till Plain
- 110 Northern Illinois and Indiana Heavy Till Plain
- 111 Indiana and Ohio Till Plain
- 112 Cherokee Prairies
- 113 Illinois Coteau des Prairies
- 114 Southern Illinois and Indiana Thin Loess and Till Plain
- 115 Central Mississippi Valley Wooded Slopes

N

EAST AND CENTRAL GENERAL FARMING AND FOREST REGION

- 112 (See M Above)
- 116 Ozark Highland
- 117 Ozark Mountains
- 118 Ozark Plateau and Ridges
- 119 Ouachita Mountains
- 120 Kentucky and Indiana Sandstone and Shale Hills and Valleys
- 121 Kentucky Bluegrass
- 122 Highland Rim and Pennyroyal
- 123 Nashville Basin
- 124 Western Allegheny Plateau
- 125 Cumberland Plateau and Mountains
- 126 Central Allegheny Plateau
- 127 Eastern Allegheny Plateau and Mountains
- 128 Southern Appalachian Ridges and Valleys
- 129 Sand Mountains
- 130 Blue Ridge

O

MISSISSIPPI DELTA COTTON AND FEED GRAINS REGION

- 131 Southern Mississippi Valley Alluvium
- 132 Eastern Arkansas Prairies
- 134 (See P Below)

P

SOUTH ATLANTIC AND GULF SLOPE CASH CROP, FOREST, AND LIVESTOCK REGION

- 86 (See J Above)
- 133 Southern Coastal Plain
- 134 Southern Mississippi Valley Silty Uplands
- 135 Alabama and Mississippi Blackland Prairies
- 136 Southern Piedmont
- 137 Carolina and Georgia Sandhills
- 138 North Central Florida Ridge

R

NORTHEASTERN FORAGE AND FOREST REGION

- 139 Eastern Ohio Till Plain
- 140 Glaciated Allegheny Plateau and Catskill Mountains
- 141 Southern New England Champlain Plain
- 142 New England Champlain Plain
- 143 Northeastern Mountains
- 144 New England and Eastern New York Upland
- 145 Connecticut Valley
- 146 Aroostook Area

S

NORTHERN ATLANTIC SLOPE TRUCK, FRUIT, AND POULTRY REGION

- 147 Northern Appalachian Ridges and Valleys
- 148 Northern Piedmont
- 149 Northern Coastal Plain

T

ATLANTIC AND GULF COAST LOWLANDS, FOREST AND TRUCK CROP REGION

- 150 Gulf Coast Prairies
- 151 Gulf Coast Marsh
- 152 Gulf Coast Flatwoods
- 153 Atlantic Coast Flatwoods

U

FLORIDA SUBTROPICAL FRUIT, TRUCK CROP AND RANGE REGION

- 154 South Central Florida Ridge
- 155 Southern Florida Flatwoods
- 156 Florida Everglades and Associated Areas

TABLE 1.—Experimental agricultural watersheds, listed by States and locations, which were under study during 1965 and are included in this publication

State	Locality	Major land resource area <u>1/</u>	Assigned location No.	Watershed units (number)	Events reported (number)	Pages (inclusive)
Arizona.....	Safford.....	D-41, D-42.....	45	4	4	171-178
	Tombstone.....	D-41.....	63	<u>2/</u> 8	13	234-259
Florida.....	Vero Beach.....	U-155.....	8	4	4	18-29
Georgia.....	Watkinsville <sup>3/</sup> ...	P-136.....	10	1	-	---
Idaho.....	Reynolds Creek...	D-23, D-25.....	68	<u>4/</u> 2	2	283-293
Illinois.....	Monticello <sup>3/</sup> .....	M-108.....	61	2	-	---
Iowa.....	Iowa City.....	M-108.....	21	1	1	69,70
	Treynor.....	M-107.....	71	5	6	516-526
Mississippi.....	Oxford.....	P-133, P-134.....	62	15	15	189-233
Missouri.....	McCredie.....	M-113.....	25	1	1	71,72
Nebraska.....	Hastings.....	H-71, H-73, H-74.....	44	15	15	140-170
New Mexico.....	Albuquerque.....	D-42.....	47	3	6	179-188
	Santa Rosa.....	G-70.....	64	1	1	260-263
New York.....	Cohocton <sup>3/</sup> .....	R-140.....	2	1	-	---
North Carolina...	Ahoskie.....	P-133.....	75	<u>5/</u> 4	8	543-568
Ohio.....	Coshocton.....	N-124.....	26	34	0	73-89
Oklahoma.....	Cherokee.....	H-80.....	34	6	0	95-97
	Chickasha.....	H-78, H-80, J-84.....	69	<u>6/</u> 30	91	294-515
	Stillwater.....	H-80.....	37	3	0	98,99
South Dakota....	Newell.....	G-58, G-60.....	65	7	0	264-277
	Cottonwood.....	G-60.....	72	<u>7/</u> 3	7	527-542
Texas.....	Riesel (Waco)...	J-86.....	42	20	20	100-139
Vermont.....	North Danville <sup>3/</sup> ...	R-144.....	67	4	-	---
Virginia.....	Blacksburg.....	N-128, S-147, N-130, P-136, S-148.....	13	14	14	30-68
West Virginia....	Moorefield.....	N-128, S-147.....	66	4	4	278-282
Wisconsin.....	Colby.....	K-90.....	29	1	0	90
	Fennimore.....	M-105.....	31	4	0	91-94

1/ See location map and legend, pages 12 and 13.2/ Includes data on 1 new watershed (63.15).3/ Report deferred on watersheds.4/ Includes data on 1 new watershed (68.2).5/ Includes data on 4 new watersheds.6/ Includes data on 13 new watersheds.7/ Includes data on 3 new watersheds.

TABLE 2.—Watershed, listed by State, where observations were discontinued during the 1964 calendar year. (For Studies discontinued before 1964, see tables in previous publications.)

State	Locality	Major land resource area <u>1/</u>	Discontinued watershed units		
			Number	Record period	Assigned location and watershed No.
Mississippi.....	Oxford.....	P-133, P-134.....	1	1957-64.....	62.6

1/ See location map and legend, pages 12 and 13.

TABLE 3.—List, by States, of additions or revisions made herein to data published prior to 1965

State	Locality	Location page No.	Nature of addition or revision <u>1/</u>
Arizona	Tombstone	63.1-3,-4	Geologic and Vegetation maps (published in Ref. 7) <u>revised</u> for Watershed 63.001 (W-1).
		63.15.1	Data <u>added</u> for new Watershed 63.015 beginning in 1965.
Idaho	Reynolds	68.2-1	Data <u>added</u> for new Watershed W-2 beginning in 1965.
Mississippi	Oxford	62.1-1	Gaging station relocated upstream Jan. 1, 1965. Drainage area <u>reduced</u> from 2000 to 1580 acres "and watershed designated W-4A," (published in Ref. 8).
North Carolina	Ahoskie	75.1,2,3,4	Data <u>added</u> for W-A1, W-A2, W-A3, and W-A4 beginning in 1964.
Oklahoma	Chickasha	69.16-1	LOCATION, AREA, SOILS, and SURFACE DRAINAGE from Ref. 7 <u>revised</u> for Watershed 512.
		69.31,38,39, 69.40,41	Data <u>added</u> for new C-2, R-1, R-2, R-3, and R-4 beginning in 1962.
		69.19,30,32, 69.33,34,35, 69.36,37	Data <u>added</u> for new 513, C-1, C-3, C-4, C-5, C-6, C-7, and C-8 beginning in 1965.
South Dakota	Cottonwood	72.1,-2, 72.5	Data <u>added</u> for Watersheds H-2, L-2, and M-1 (new) beginning in 1963.

1/ References 1, 2, and 3 generally cover years 1924-55; Ref. 4, 1956-59; Ref. 5, 1960-61; Ref. 6, 1962; Ref. 7, 1963; and Ref. 8, 1964.





**WATERSHED DATA BY LOCATION NUMBER  
AND  
DECIMAL PAGING**

**[8.1-1 TO 75.4-6, A TOTAL OF 551 DATA SHEETS]**

For location by States and Land Resource Areas  
and Regions, see U.S. Index, Map, page 12.

MONTHLY PRECIPITATION AND RUNOFF <sup>1/</sup> (inches) <sup>2/</sup>						VERO BEACH, FLORIDA (NORTH, MAIN & SOUTH CANALS) WATERSHED W-1 8.1 AREA —49,915 ACRES (78.0 SQ. MILES)										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P	.32	4.32	6.75	.08	.27	5.28	7.01	4.53	5.03	7.04	2.09	1.37	44.09		
	Q	1.25	1.88	2.35	1.28	.83	2.36	2.97	2.69	2.00	2.40	2.58	1.51	24.10		
STA AV	P	2.05	2.88	3.74	3.49	3.37	5.66	5.66	6.02	8.21	6.26	2.30	1.52	51.16		
(51-65)	Q	1.43	1.36	1.83	1.45	1.24	2.14	1.92	2.14	4.05	3.95	1.76	1.30	24.57		
MEAN P	4/															
65 YR.		2.30	2.50	3.00	3.36	4.18	5.81	5.55	5.62	7.96	7.38	2.70	2.09	52.45		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-11	.025	7-11	.025	7-11	.048	7-11	.138	7-11	.252	7-11	.444	7-11	.651	7-11	1.42
MAXIMUMS FOR PERIOD OF RECORD																
1951 TO 1965	9-24 1963	.106	9-24 1963	.106	9-24 1963	.211	9-24 1963	.623	9-24 1963	1.23	9-23 1963	2.37	9-23 1960	4.51	9-22 1960	13.31
NOTES: Watershed conditions: citrus groves, 40%; improved pasture, 35%; unimproved range and forest, 10%; urban development, 15%. 1/ Precipitation Thiessen weighted using 5 gages. 2/ Runoff data furnished by U. S. Geological Survey. Artesian irrigation inflow included in runoff. 3/ Precipitation and runoff records began April 1951. 4/ Mean P based on 65-yr (1901-1965) U.S. Weather Bureau record period at Fort Pierce No. 1, Fla. Missing records for July 1933 and for Feb. 1950 estimated from nearby station.																
1965 DAILY PRECIPITATION (inches)						VERO BEACH, FLORIDA WATERSHED W-1 8.1										
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.12	.00	.00	.00	.00	.00	.00	.00	.00	.02	.03	.00				
2	.00	1.00	1.70	.00	.00	.00	.00	.11	.00	.05	.00	.00				
3	.00	.00	.31	.00	.00	.00	.00	.40	.20	.00	.00	.00				
4	.06	.00	.31	.00	.00	.15	.00	.00	.00	.00	.00	.00				
5	.00	.27	.00	.00	.00	.00	.04	.00	.00	.00	.14	.00				
6	.00	.01	.01	.00	.00	.00	.00	.01	.47	.11	1.39	.00				
7	.00	.68	.00	.00	.00	.22	.00	.00	.24	.38	.10	.00				
8	.00	.00	.00	.00	.00	.06	.03	.45	.57	.00	.00	.00				
9	.00	.00	.00	.00	.00	.72	.27	.37	.03	.00	.00	.00				
10	.00	.00	.00	.00	.00	.57	.47	.40	.00	.00	.00	.00				
11	.00	.00	.00	.00	.05	1.10	1.29	.26	.00	.00	.00	.00				
12	.00	.00	.00	.00	.02	.22	.13	.00	.00	.00	.00	.00				
13	.00	.00	.00	.00	.00	.24	.67	.00	.00	.18	.00	.52				
14	.00	.01	.35	.00	.00	.52	.05	.00	.00	.72	.00	.00				
15	.04	.00	.00	.00	.00	.00	.48	.25	.11	.22	.00	.00				
16	.00	.00	.24	.00	.00	.02	.00	.06	.10	.00	.00	.00				
17	.00	.00	.00	.00	.00	.57	.44	.00	.49	.14	.00	.00				
18	.00	.28	.00	.00	.00	.58	.26	.31	.13	.01	.00	.00				
19	.00	.01	.00	.00	.00	.00	.64	1.14	.00	.06	.00	.34				
20	.00	.01	.18	.00	.00	.00	.71	.22	.01	.01	.00	.42				
21	.00	.03	.07	.01	.00	.00	.00	.00	.00	.72	.00	.00				
22	.03	.00	.01	.04	.03	.00	.00	.00	.03	.68	.00	.00				
23	.04	1.81	.00	.00	.00	.00	.03	.00	.12	.23	.00	.00				
24	.00	.00	.00	.00	.05	.09	.00	.00	.23	.00	.00	.00				
25	.00	.21	.00	.00	.10	.15	.00	.00	.42	.00	.02	.00				
26	.00	.00	.00	.00	.00	.03	.00	.29	.31	.00	.00	.00				
27	.00	.00	.61	.00	.00	.04	.00	.00	.21	.00	.00	.00				
28	.00	.00	1.67	.00	.00	.00	.12	.14	.97	.00	.14	.00				
29	.00	.00	.01	.03	.00	.00	.04	.08	.30	.03	.12	.01				
30	.03	-----	.34	.00	.00	.00	1.13	.00	.09	1.64	.15	.08				
31	.00	-----	.94	-----	.02	-----	.21	.04	-----	1.84	-----	.00				
TOTAL	0.32	4.32	6.75	0.08	0.27	5.28	7.01	4.53	5.03	7.04	2.09	1.37				
STA AV	2.05	2.88	3.74	3.49	3.37	5.66	5.66	6.02	8.21	6.26	2.30	1.52				
NOTES: THIESSEN WEIGHTED RAINFALL USING 5 GAGES. STA AV COVERS PERIOD FROM JULY 1, 1951 THROUGH 1965.																

Cooperative Research Project of USDA, Florida Agricultural Experiment Station,  
U. S. Geological Survey, and the Central and Southern Florida Flood Control District

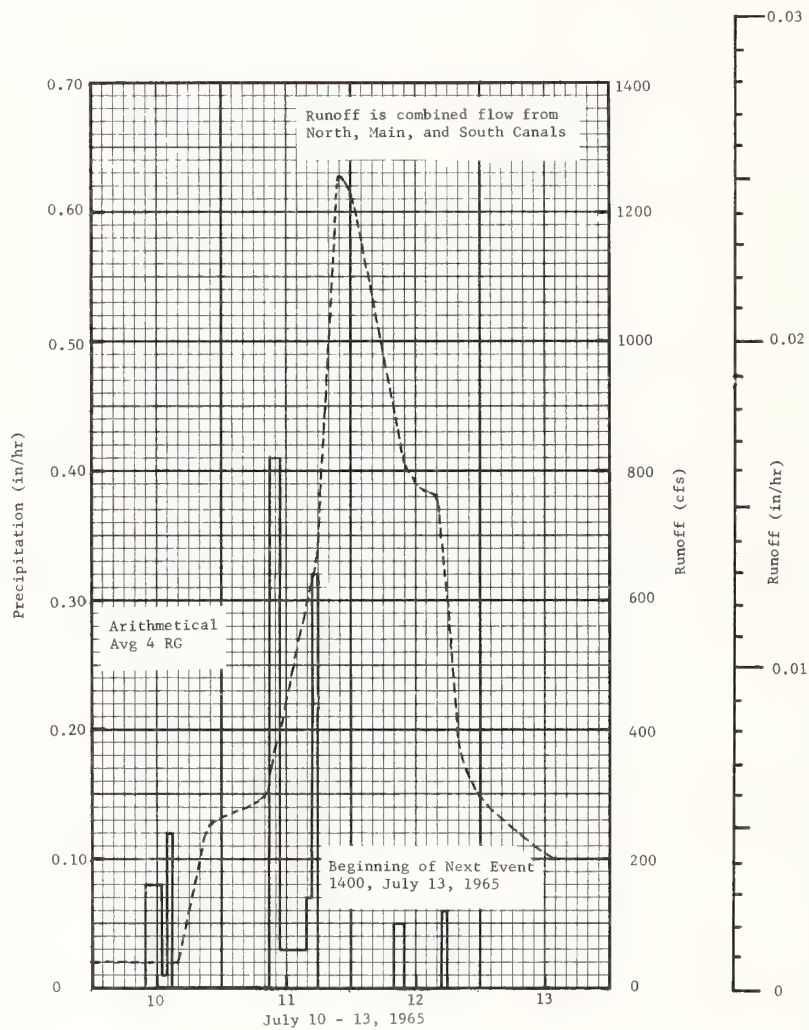
1965 MEAN DAILY DISCHARGE (cfs)						VERO BEACH, FLORIDA (MAIN, NORTH, SOUTH CANALS) WATERSHED W-1 8.1						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	83.0	74.1	43.4	371.0	78.6	74.0	29.8	173.0	97.5	295.0	867.0	117.6
2	75.8	376.0	333.0	146.9	65.3	72.9	66.0	43.0	58.4	132.0	366.0	121.6
3	69.5	206.0	619.0	90.8	76.3	48.6	49.6	334.7	84.9	91.8	210.0	134.4
4	75.5	187.0	456.0	88.4	36.1	58.8	17.1	181.9	71.8	49.0	160.0	108.3
5	85.4	147.9	235.0	83.2	16.0	68.4	17.9	41.8	102.9	97.0	135.0	80.3
6	84.0	111.7	143.0	79.5	17.3	164.0	16.2	39.3	389.0	178.0	240.0	115.3
7	83.9	137.3	161.0	48.1	18.9	156.0	16.3	84.1	612.0	208.5	714.0	18.9
8	79.8	171.1	112.0	46.8	56.0	103.0	15.8	81.1	348.0	243.0	302.0	49.0
9	68.8	163.6	145.0	90.4	114.6	244.0	23.1	138.1	28.8	47.8	195.0	86.0
10	65.4	93.5	102.0	76.3	62.8	214.0	78.2	457.0	41.0	34.3	156.0	90.8
11	66.1	76.4	90.0	70.3	56.1	248.0	591.0	193.0	83.6	35.3	131.0	59.0
12	67.0	90.2	93.7	69.5	62.5	504.0	774.0	100.7	82.8	37.4	112.2	30.0
13	67.2	94.2	72.5	49.6	94.3	331.0	262.8	93.0	64.0	45.5	117.1	172.4
14	163.5	94.2	99.6	17.2	67.3	259.0	304.8	43.6	55.1	135.0	112.9	195.7
15	155.2	123.3	113.7	20.6	59.3	361.0	259.0	72.7	56.4	102.6	108.8	136.7
16	89.4	97.3	108.7	46.0	30.2	110.6	341.0	206.0	53.9	170.0	105.7	126.7
17	50.2	23.3	147.6	115.7	41.7	321.0	231.0	303.0	143.7	212.0	102.6	116.7
18	46.1	51.6	134.5	90.5	51.9	364.0	218.0	282.9	155.7	134.0	100.4	85.6
19	42.1	80.7	111.3	135.7	38.8	371.0	238.0	380.0	133.7	75.7	98.4	61.8
20	113.6	92.7	92.7	23.8	36.7	168.3	669.0	720.0	46.5	59.6	93.2	252.6
21	110.6	97.9	106.2	38.7	18.2	70.0	587.7	448.0	42.3	192.0	89.0	128.5
22	63.2	98.5	100.2	52.1	68.3	71.0	325.7	263.0	74.7	445.0	46.0	100.5
23	120.8	371.0	86.5	118.3	125.0	72.7	175.1	157.0	85.1	160.0	19.0	94.3
24	130.9	369.0	86.9	109.5	122.0	127.7	118.1	22.9	90.1	85.9	56.7	88.3
25	75.2	147.5	81.9	185.9	46.6	105.0	90.1	23.4	91.4	49.7	139.8	83.5
26	85.9	57.7	43.6	105.7	20.4	32.0	94.3	55.0	190.0	33.5	161.7	56.5
27	100.0	161.6	46.3	87.7	51.8	62.4	83.5	80.9	168.0	22.7	141.8	25.2
28	81.9	154.6	133.0	54.7	34.2	91.4	68.6	106.9	189.0	52.9	132.8	117.6
29	75.8		501.0	93.4	50.2	50.3	69.6	160.9	303.0	126.0	117.8	77.6
30	84.0	-----	192.0	87.3	59.1	14.4	160.6	261.9	251.0	303.0	89.7	152.3
31	68.1		133.0	-----	54.6	-----	239.0	98.4	-----	1184.0	-----	80.5
MEAN	84.8	141.1	158.8	89.8	55.8	164.8	201.0	182.2	139.9	162.5	180.7	102.1
INCHES	1.25	1.88	2.35	1.28	.83	2.36	2.97	2.69	2.00	2.40	2.58	1.51

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0004769. DAILY DISCHARGE IS COMBINED FLOWS OF NORTH, MAIN, AND SOUTH CANALS FROM RECORDS OF U.S. GEOLOGICAL SURVEY. RUNOFF SUBJECT TO CONTROL. RECORDS POOR TO GOOD. OCTOBER, NOVEMBER, DECEMBER ARE PROVISIONAL DATA NOT VERIFIED.

1965			SELECTED RUNOFF EVENT			VERO BEACH, FLORIDA (MAIN, NORTH, SOUTH CANALS) WATERSHED W-1 8.1						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of July 10 - 13, 1965												
7-10	.00	.00	7-10	4 RG	AVG 1/		7-10	0000	40	.0000		
				1000	.00	.00		1600	40	.0126		
				1300	.08	.24		2200	256	.0302		
				1400	.01	.25		7-11	0800	298	.0852	
				1500	.12	.37			1800	674	.1818	
			7-11	0900	.00	.37						
				1100	.41	1.19		2200	1258	.2586		
				1600	.03	1.34	7-12	2400	1224	.3079		
				1700	.07	1.41		1000	814	.5104		
				1800	.32	1.73		1200	785	.5422		
7-12	3800	.00	1.73		1600	761	.6036					
	1000	.05	1.83		2000	396	.6495					
	1700	.00	1.83		2400	299	.6771					
				1800	.06	1.89	7-13	1400	200	.7467		
Watershed conditions:												
Approximate land use: (from SCS)												
40% in citrus and cropland												
35% in improved pasture												
10% in range and forest												
15% miscel. (urban development)												

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00001987. FOR MAP OF WATERSHED, SEE PAGE 8.1-7 IN SELECTED RUNOFF EVENTS FROM SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, USDA, ARS, JAN. 1960. FOR 30-DAY ANTECEDENT P AND Q SEE TABLE ABOVE AND ON PREVIOUS PAGE. 1/ PRECIPITATION IS ARITHMETICAL AVERAGE OF 4 RG. 2/ BEGINNING OF NEXT EVENT.





VERO BEACH, FLORIDA WATERSHED W-1

MONTHLY PRECIPITATION AND RUNOFF <sup>1/</sup> (inches) <sup>2/</sup>						VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-2 AREA — 63,170 ACRES (98.7 SQ. MILES)								8.2
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	P	.27	3.14	3.22	1.17	1.01	6.79	7.18	4.34	4.78	4.10	.56	.99	37.55
	Q	.07	.12	.18	.07	.03	.19	.37	.46	.21	.36	.25	.08	2.39
STA AV (55-65)	P	1.66	2.48	3.49	2.53	4.32	7.13	5.93	6.20	6.98	3.79	1.25	1.69	47.45
	Q	.42	.50	.99	.22	.36	1.60	1.51	1.77	3.26	2.02	2.77	.15	15.57
MEAN P 47 YR	P 4/ 47 YR	1.58	1.87	2.72	3.28	3.83	7.06	5.97	6.05	7.08	4.82	1.68	1.50	47.44

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL											
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-22	.003	7-22	.003	7-22	.006	7-22	.017	7-22	.033	7-22	.065	7-22	.110
													7-21	.223

## MAXIMUMS FOR PERIOD OF RECORD

1955 TO 1965	10-16 1956	.11	10-16 1956	.11	10-16 1956	.21	10-16 1956	.62	10-16 1956	1.23	10-16 1956	2.28	10-16 1956	4.16	10-16 1956	8.03
--------------	------------	-----	------------	-----	------------	-----	------------	-----	------------	------	------------	------	------------	------	------------	------

NOTES: Watershed conditions: range and forest, 55%; improved pasture, 34%; citrus, 1%; miscellaneous, 10%.

<sup>1/</sup> Precipitation Thiessen weighted using 7 gages. <sup>2/</sup> Runoff data furnished by U. S. Geological Survey. <sup>3/</sup> Precipitation and runoff records began July 1955. <sup>4/</sup> Mean P based on 47-yr (1919-65) U.S. Weather Bureau record period at Okeechobee Hurricane Gate 6, Fla.

1965 DAILY AIR TEMPERATURE (degrees F)										VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-2										8.2					
DAY	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC		
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	
1	77	56	61	33	76	55	89	59	80	53	90	68	92	70	86	74	90	73	91	75	69	66	63	38	
2	75	52	75	62	80	67	79	53	85	58	89	63	94	72	88	76	91	75	90	73	80	65	65	47	
3	79	55	80	45	75	62	79	51	87	62	88	59	92	73	89	74	91	73	93	74	79	64	74	57	
4	81	57	73	52	82	67	84	57	85	61	92	63	92	75	91	75	90	74	91	71	79	60	79	55	
5	71	53	76	58	76	51	86	60	85	60	92	67	93	74	92	74	91	76	90	72	80	63	71	53	
6	73	46	74	64	65	54	87	62	89	63	92	65	94	71	92	75	91	74	88	72	79	64	77	42	
7	76	50	78	66	64	41	87	64	88	65	93	69	92	72	92	76	89	73	91	75	81	65	75	46	
8	75	51	79	59	66	45	90	63	89	65	86	73	94	74	91	77	86	76	84	73	83	61	68	45	
9	77	56	85	59	63	38	90	64	88	61	83	70	93	72	90	74	84	78	86	66	83	62	71	47	
10	78	50	82	58	67	45	88	67	88	68	85	70	91	73	90	73	90	76	88	68	82	59	73	47	
11	81	60	82	56	75	49	91	65	88	69	87	74	93	75	89	74	91	74	88	63	86	62	75	52	
12	75	57	82	55	78	51	92	68	86	63	87	71	86	71	90	76	87	75	91	67	85	65	76	55	
13	73	56	83	56	85	62	93	64	91	65	85	75	90	72	91	76	89	72	89	67	85	64	78	64	
14	76	53	85	67	86	59	90	63	91	56	92	73	88	70	90	77	89	69	82	68	79	68	78	61	
15	74	56	85	55	75	61	88	56	86	58	91	76	91	71	89	74	89	69	72	71	83	64	82	60	
16	69	59	77	56	78	64	85	66	86	57	93	77	91	73	91	75	87	73	84	70	81	58	84	66	
17	73	32	82	58	86	67	90	57	86	58	90	72	92	74	91	76	88	75	86	69	83	59	83	65	
18	46	25	83	58	86	70	88	58	90	59	89	71	87	74	94	74	86	74	86	62	80	50	77	58	
19	59	34	85	55	88	71	87	59	90	64	88	68	89	74	92	75	87	75	88	64	80	57	79	66	
20	66	37	76	41	89	70	88	63	92	71	85	66	89	75	92	74	88	73	86	67	81	60	82	58	
21	73	48	78	63	86	50	89	64	91	69	87	66	87	70	89	74	89	77	89	69	81	55	64	43	
22	78	51	72	57	70	59	90	67	89	66	86	70	88	73	92	76	88	74	86	71	82	63	68	40	
23	81	62	77	63	75	61	82	71	90	71	90	70	89	71	91	76	89	74	75	65	82	61	69	56	
24	80	65	70	63	84	65	86	69	90	70	90	68	89	74	92	74	86	72	77	57	78	54	74	53	
25	84	55	84	58	87	62	80	69	90	76	90	72	88	76	92	74	88	73	78	54	80	56	77	51	
26	79	59	63	37	87	67	85	69	89	68	90	71	90	74	92	76	89	74	78	60	79	56	79	47	
27	87	63	59	36	87	67	88	69	89	66	89	73	91	72	92	73	88	73	79	56	83	59	64	45	
28	74	48	70	41	89	68	90	71	90	65	89	73	90	74	93	73	87	73	79	58	83	62	74	55	
29	66	40			87	66	90	62	92	67	89	74	88	76	96	69	89	75	83	63	81	59	77	58	
30	67	43	-----	-----	88	65	80	55	95	67	90	71	87	71	93	70	90	76	81	65	74	52	77	52	
31	79	52			88	69			94	70			89	74	90	73			77	66				75	55
AV.	74	51	77	55	80	60	87	63	89	64	89	70	90	73	91	74	89	74	85	67	81	60	74	53	
MEAN	62.4		65.8		69.6		74.9		76.4		79.6		81.6		82.7		81.2		75.7		70.5		63.7		
STA AV	74	51	76	54	79	57	84	63	88	68	90	74	91	75	92	75	90	74	86	66	81	61	74	52	

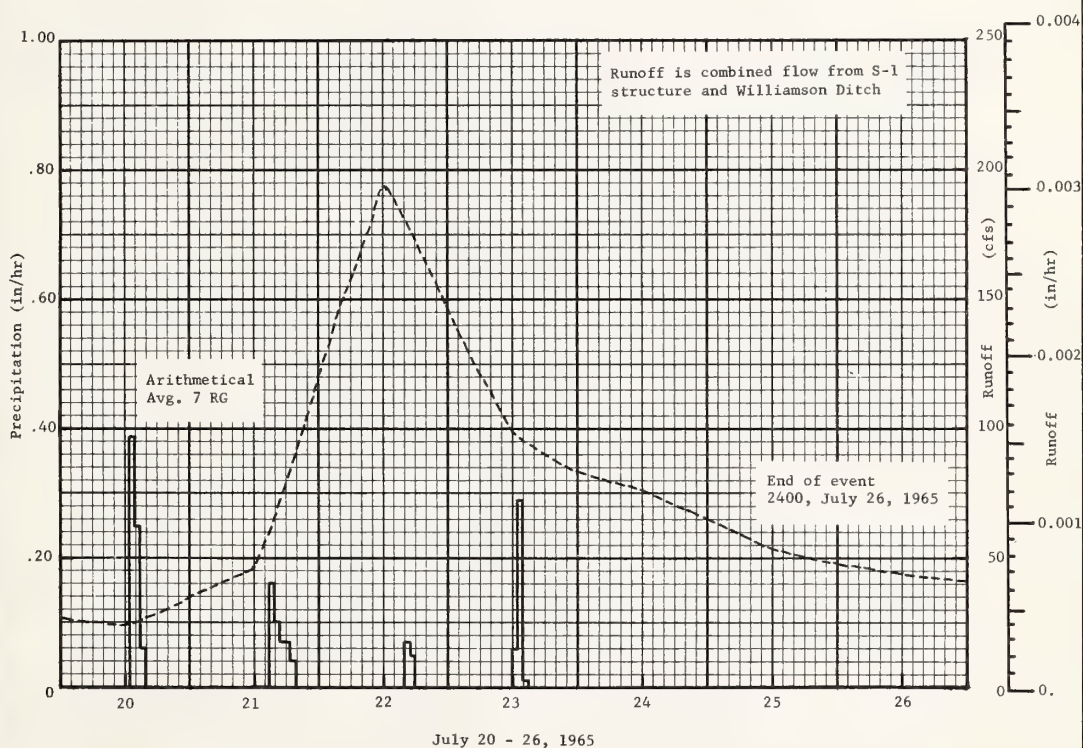
NOTES: TEMPERATURE DATA FROM R-3, READINGS TAKEN DAILY. STA AV COVERS PERIOD FROM JULY 1, 1956 THROUGH 1965.



1965 DAILY PRECIPITATION (inches)						VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-2 8.2						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.06	.00	.00	.00	.00	.00	.00	.01	.07	.42	.00	.00
2	.00	.32	.13	.00	.00	.00	.00	.23	.61	.05	.01	.00
3	.00	.00	.40	.00	.00	.00	.03	.31	.00	.00	.01	.00
4	.00	.00	.36	.00	.00	.00	.54	.26	.00	.00	.02	.00
5	.00	.21	.01	.00	.00	.24	.31	.18	.00	.00	.17	.00
6	.00	.00	.01	.00	.00	.00	.03	.16	.12	.38	.14	.00
7	.00	.43	.00	.00	.00	1.17	.00	.46	.13	.39	.01	.00
8	.00	.00	.00	.00	.00	.57	.09	.75	.71	.00	.00	.00
9	.00	.00	.00	.00	.00	.03	.00	.21	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.12	.01	.01	.00	.00	.00	.00
11	.12	.00	.00	.00	.15	.63	.23	.01	.00	.00	.00	.00
12	.00	.00	.00	.00	.24	.56	.40	.41	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.14	.32	.00	.00	.04	.00	.37
14	.00	.00	.39	.00	.00	.13	.10	.16	.00	.82	.00	.00
15	.05	.00	.00	.00	.00	.04	.78	.00	.27	.06	.00	.00
16	.00	.00	.00	.00	.00	.12	.49	.12	.27	.01	.00	.00
17	.00	.00	.00	.00	.00	.29	.66	.00	.24	.00	.00	.00
18	.00	.15	.00	.00	.00	2.22	.19	.00	.02	.00	.00	.00
19	.00	.03	.00	.00	.00	.07	.19	.25	.00	.00	.00	.11
20	.00	.00	.00	.00	.00	.00	.58	.01	.00	.01	.00	.46
21	.00	.05	.00	.00	.00	.00	.57	.00	.00	.00	.00	.00
22	.04	.08	.00	.07	.00	.29	.09	.02	.04	.75	.00	.00
23	.00	1.59	.00	.00	.00	.07	.04	.01	.02	.00	.02	.00
24	.00	.09	.00	.44	.62	.00	.03	.02	.02	.00	.00	.00
25	.00	.19	.00	.01	.00	.10	.00	.01	.04	.00	.00	.00
26	.00	.00	.74	.65	.00	.00	.00	.00	.61	.00	.00	.00
27	.00	.00	1.11	.00	.00	.00	.03	.00	.04	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.03	.23	.20	.00	.07	.00
29	.00	.00	.00	.00	.00	.00	.21	.12	.21	.00	.01	.04
30	.00	-----	.00	.00	.00	.00	1.23	.12	1.16	.50	.10	.01
31	.00	-----	.07	-----	.00	-----	.00	.27	-----	.67	-----	.00
TOTAL	0.27	3.14	3.22	1.17	1.01	6.79	7.18	4.34	4.78	4.10	0.56	0.99
STA AV	1.66	2.48	3.49	2.53	4.32	7.13	5.93	6.20	6.98	3.79	1.25	1.69
NOTES: THIESSEN WEIGHTED RAINFALL - USING 7 GAGES. STA AV BASED ON PERIOD JULY 1, 1955 THROUGH 1965.												
1965 MEAN DAILY DISCHARGE (cfs)						VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-2 8.2						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	7.2	3.9	14.0	14.0	3.3	1.3	7.0	60.0	12.0	39.0	57.0	6.0
2	7.0	4.5	13.0	12.0	3.3	1.0	6.5	54.0	13.0	96.0	98.0	5.4
3	8.0	5.6	14.0	9.8	2.9	1.3	6.0	48.0	28.0	69.0	87.0	5.1
4	6.6	6.5	22.0	7.9	2.7	3.5	6.0	55.0	22.0	47.0	61.0	5.6
5	6.6	6.2	24.0	8.0	2.3	5.1	8.0	61.0	28.0	31.0	48.0	5.9
6	6.5	5.2	20.0	7.6	3.8	3.9	7.6	54.0	27.0	24.0	33.0	5.9
7	5.6	8.5	16.0	7.1	4.7	6.3	7.6	48.0	12.0	26.0	28.0	6.7
8	5.6	9.6	14.0	7.1	4.4	5.1	6.0	48.0	5.9	31.0	28.0	5.8
9	5.6	8.5	14.0	6.2	4.4	14.0	5.6	68.0	26.0	30.0	27.0	4.6
10	5.2	7.2	12.0	6.2	3.0	15.0	5.2	108.0	20.0	33.0	26.0	3.0
11	5.6	6.6	11.0	5.8	2.3	12.0	6.5	98.0	18.0	25.0	15.0	3.5
12	5.6	7.0	8.7	6.0	2.7	16.0	8.0	88.0	15.0	19.0	9.0	3.3
13	5.6	6.5	9.3	6.1	2.3	17.0	11.0	60.0	18.0	17.0	8.1	5.1
14	6.0	6.0	8.7	5.8	2.1	12.0	15.0	48.0	17.0	17.0	7.7	6.3
15	6.0	6.6	10.0	5.4	2.3	11.0	15.0	42.0	17.0	53.0	7.3	7.1
16	5.2	4.8	11.0	5.8	2.3	9.7	17.0	30.0	27.0	42.0	7.3	7.9
17	5.4	4.8	9.2	4.8	2.1	8.8	21.0	32.0	30.0	36.0	10.0	9.2
18	5.0	5.6	9.7	4.1	2.3	49.0	32.0	22.0	27.0	33.0	6.2	9.2
19	5.4	6.6	8.6	3.9	2.3	117.0	28.0	16.0	16.0	22.0	4.8	8.9
20	5.4	5.4	9.2	3.9	2.1	60.0	24.0	16.0	18.0	22.0	4.8	11.0
21	5.9	6.2	7.2	3.9	2.1	26.0	46.0	20.0	13.0	13.0	4.8	9.5
22	5.0	7.2	6.0	4.1	2.3	18.0	194.0	11.0	15.0	8.1	8.8	11.0
23	5.5	17.0	6.5	4.1	2.7	22.0	99.0	14.0	11.0	14.0	9.0	9.8
24	6.0	46.0	7.0	4.8	2.1	18.0	76.0	14.0	17.0	51.0	8.5	9.2
25	6.4	47.0	6.5	5.2	2.3	15.0	53.0	14.0	18.0	31.0	8.5	8.9
26	5.9	38.0	7.2	5.0	1.5	12.0	44.0	12.0	9.0	26.0	8.5	8.4
27	6.6	23.0	30.0	7.4	1.5	11.0	39.0	11.0	20.0	23.0	8.7	7.7
28	5.6	16.0	61.0	6.4	2.1	12.0	39.0	16.0	17.0	18.0	10.0	8.3
29	5.4	-----	41.0	5.5	1.8	9.2	41.0	10.0	18.0	16.0	9.1	7.8
30	4.6	-----	22.0	3.2	1.8	7.2	46.0	14.0	24.0	15.0	8.2	7.2
31	5.2	-----	16.0	-----	1.8	-----	59.0	17.0	-----	24.0	-----	7.2
MEAN	5.8	11.6	15.1	6.2	2.6	17.3	31.6	39.0	18.6	30.7	21.9	7.1
INCHES	.07	.12	.18	.07	.03	.20	.37	.46	.21	.36	.25	.08
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0003768. RUNOFF DATA FURNISHED BY THE U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR TO POOR. OCTOBER, NOVEMBER, DECEMBER ARE PROVISIONAL DATA NOT VERIFIED BY PUBLICATION. DISCHARGE MEASUREMENTS GENERALLY MADE ONCE A WEEK.												

1965			SELECTED RUNOFF EVENT			VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-2				8.2	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF <u>1/</u>				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of July 20 - 26, 1965											
7-20	.00	.00	7-20	7 RG	AVG <u>2/</u>		7-20	0000	26	.0000	
				1300	.00	.00		1200	24	.0047	
				1400	.39	.39		2400	35	.0102	
				1500	.25	.64		1200	46	.0177	
				1600	.06	.70		2400	120	.0333	
Watershed conditions:				7-21	1500	.00	.70				
Approximate land use:				1600	.16	.86	7-22	1200	194	.0629	
(from SCS)				1700	.10	.96	2400	146	.0950		
34% in improved pasture				1900	.07	1.10	7-23	1200	99	.1183	
1% in citrus				2000	.04	1.14	2400	83	.1355		
55% in range and forest				7-22	1600	.00	1.14	7-24	1200	76	.1503
10% in miscellaneous				1700	.07	1.21	2400	65	.1637		
				1800	.05	1.26	7-25	1200	53	.1748	
				1200	.00	1.26	2400	48	.1843		
				1300	.06	1.32	7-26	1200	44	.1929	
				1400	.29	1.61	2400	42	<u>3/</u>	.2010	
				1500	.01	1.62					

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00001570. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 8.2-4. FOR ANTECEDENT P AND Q SEE TABLES ON PREVIOUS PAGES. 1/ RUNOFF IS COMBINED FLOW FROM S-1 STRUCTURE AND WILLIAMSON DITCH. RATES ARE BASED ON MEAN DAILY FLOWS ONLY. 2/ PRECIPITATION IS ARITHMETICAL AVERAGE OF 7 RG. 3/ END OF EVENT.



VERO BEACH, FLORIDA WATERSHED W-2

MONTHLY PRECIPITATION <sup>1/</sup> AND RUNOFF <sup>2/</sup> (inches)						VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-3 AREA — 10,050 ACRES (15.7 SQ. MILES)										8.3
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P	.16	2.90	2.86	.81	.88	5.05	8.89	4.50	4.82	3.62	.29	1.56	36.34		
	Q	.03	.05	.19	.05	.00	.09	.58	1.13	.42	.48	.28	.17	3.47		
STA AV	P	1.65	2.28	3.58	3.01	4.48	6.57	6.38	6.17	6.60	3.89	1.10	1.67	47.38		
(55-65)	Q	.36	.28	.99	.20	.29	1.13	1.16	1.61	3.29	1.83	1.35	.11	12.60		
MEAN P	4/	1.58	1.87	2.72	3.28	3.83	7.06	5.97	6.05	7.08	4.82	1.68	1.50	47.44		
47 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS <sup>5/</sup>																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-9	.012	8-9	.012	8-9	.022	8-9	.063	8-9	.120	8-9	.228	8-9	.384	8-6	.755
MAXIMUMS FOR PERIOD OF RECORD																
1955 TO	10-15	.25	10-15	.24	10-15	.47	10-15	1.35	10-15	2.55	10-15	3.14	10-15	6.21	10-15	8.67
1965	1956		1956		1956		1956		1956		1956		1956		1956	
NOTES: Watershed conditions: range and forest, 60%; improved pasture, 30%; miscellaneous, 10%. 1/ Precipitation Thiessen weighted using 2 gages. 2/ Runoff data furnished by U.S. Geological Survey. 3/ Precipitation and runoff records began July 1955. 4/ Mean P based on 47-yr (1919-1965) U.S. Weather Bureau record period at Okeechobee Hurricane Gate 6, Fla. 5/ Based on daily mean flows only.																

1965 DAILY PRECIPITATION (inches)						VERO BEACH, FLORIDA WATERSHED W-3								8.3
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
2	.00	.41	.22	.00	.00	.00	.00	.10	.71	.00	.03	.00		
3	.00	.00	.65	.00	.00	.00	.00	.35	.00	.00	.00	.00		
4	.00	.00	.20	.00	.00	.00	.06	.23	.00	.00	.00	.00		
5	.00	.14	.01	.00	.00	.00	.55	.28	.00	.00	.11	.00		
6	.00	.00	.02	.00	.00	.00	.14	.22	.01	.70	.08	.00		
7	.00	.35	.00	.00	.00	1.08	.00	.19	.09	.57	.00	.00		
8	.00	.00	.00	.00	.00	.55	.11	1.00	.97	.00	.00	.00		
9	.00	.00	.00	.00	.00	.00	.00	.24	.00	.00	.00	.00		
10	.00	.00	.00	.00	.00	.00	.08	.06	.00	.00	.00	.00		
11	.05	.00	.00	.00	.00	.38	.14	.00	.00	.00	.00	.00		
12	.00	.00	.00	.00	.05	.19	.57	.68	.00	.00	.00	.00		
13	.00	.00	.00	.00	.00	.04	.97	.00	.00	.00	.00	.77		
14	.00	.00	.17	.00	.00	.09	.02	.09	.00	.54	.00	.00		
15	.03	.00	.00	.00	.00	.16	.68	.00	.49	.12	.00	.00		
16	.00	.00	.00	.00	.00	.10	.47	.00	.20	.00	.00	.00		
17	.00	.00	.00	.00	.00	.97	.81	.00	.32	.00	.00	.00		
18	.00	.09	.00	.00	.00	.56	.44	.00	.00	.00	.00	.00		
19	.00	.02	.00	.00	.00	.09	.32	.52	.00	.00	.00	.11		
20	.00	.00	.00	.00	.00	.00	1.35	.00	.00	.03	.00	.58		
21	.00	.04	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00		
22	.01	.00	.00	.00	.00	.40	.20	.00	.00	.69	.00	.00		
23	.00	1.66	.00	.00	.00	.19	.16	.00	.09	.00	.00	.00		
24	.00	.08	.00	.55	.83	.00	.00	.00	.02	.00	.00	.00		
25	.00	.11	.00	.04	.00	.17	.00	.00	.15	.00	.00	.00		
26	.00	.00	.06	.22	.00	.00	.00	.00	.45	.00	.00	.00		
27	.00	.00	1.50	.00	.00	.00	.11	.00	.06	.00	.00	.00		
28	.00	.00	.00	.00	.00	.00	.04	.09	.09	.00	.07	.00		
29	.00	.00	.00	.00	.00	.00	.26	.28	.13	.00	.00	.06		
30	.00	-----	.00	.00	.00	.00	1.15	.17	1.04	.70	.00	.04		
31	.00	-----	.03	-----	.00	-----	.00	.06	-----	.27	-----	.00		
TOTAL	0.16	2.90	2.86	0.81	0.88	5.05	8.89	4.50	4.82	3.62	0.29	1.56		
STA AV	1.65	2.28	3.58	3.01	4.48	6.57	6.38	6.17	6.60	3.89	1.10	1.67		
NOTES: THIESSEN WEIGHTED AVERAGE OF 2 GAGES. STA AV IS BASED ON PERIOD JULY 1, 1955 THROUGH 1965.														

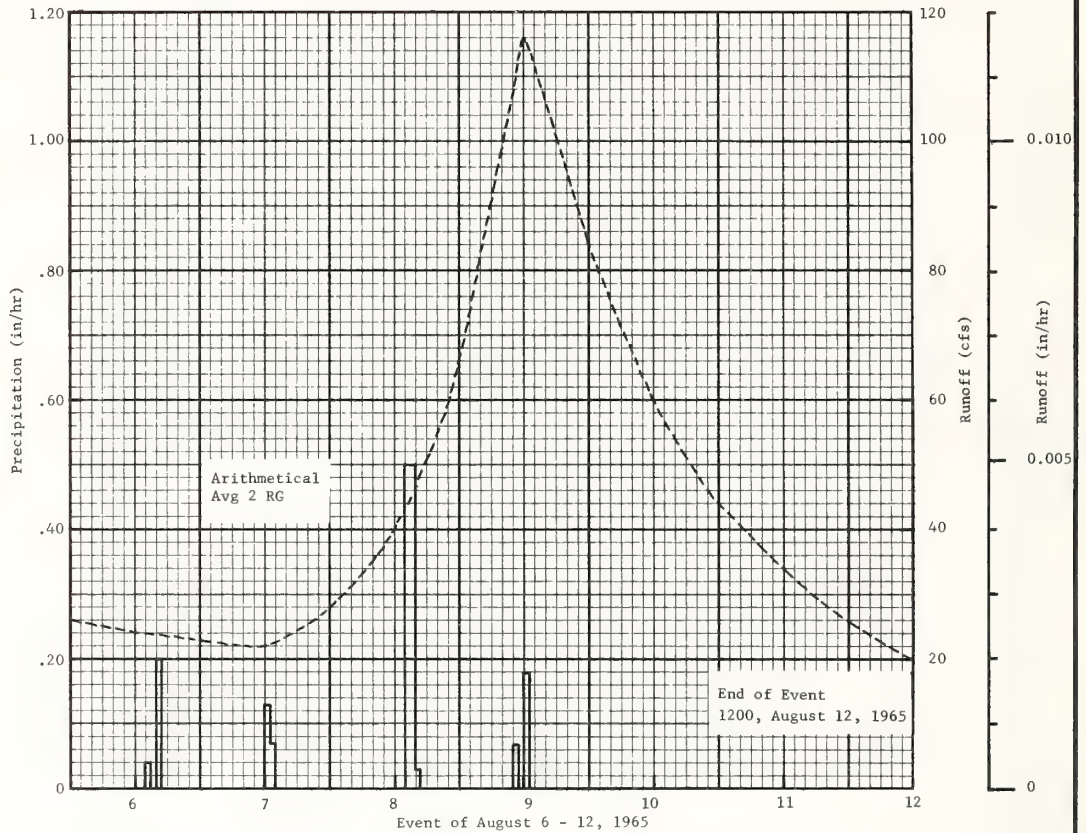


1965 MEAN DAILY DISCHARGE (cfs)						VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-3 8.3						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	1.2	.2	1.8	1.4	.2	.0	1.2	19.0	2.0	18.0	14.0	1.2
2	1.2	.7	1.7	1.4	.1	.0	1.2	11.0	2.8	14.0	11.0	1.0
3	1.2	.8	2.2	1.2	.1	.0	1.1	9.7	8.6	7.0	8.9	1.0
4	1.2	.6	13.0	1.1	.1	.0	1.0	13.0	5.5	4.3	7.9	1.0
5	.6	.7	11.0	1.1	.0	.0	1.1	16.0	3.4	2.8	7.0	1.0
6	.3	.7	5.8	1.0	.0	.0	1.1	24.0	2.6	2.4	5.9	1.0
7	.3	.6	3.7	1.0	.0	.0	1.1	22.0	20.0	8.2	5.4	1.0
8	.3	.4	3.4	1.0	.0	.4	1.0	40.0	15.0	17.0	4.8	1.0
9	.3	1.0	3.0	1.0	.0	2.0	1.0	100.0	13.0	10.0	4.3	1.2
10	.3	.6	2.6	.7	.0	1.5	1.0	60.0	6.2	5.9	4.1	1.2
11	.3	.4	2.1	.7	.0	1.7	.8	33.0	3.4	4.1	3.4	1.2
12	.1	.0	1.7	.7	.0	2.0	1.5	20.0	2.5	3.4	3.4	1.2
13	.1	.0	1.7	.7	.0	2.2	3.6	20.0	1.8	2.8	3.2	2.0
14	.1	.0	1.5	.6	.0	2.1	7.2	18.0	1.7	2.8	3.0	2.4
15	1.6	.0	1.7	.6	.0	2.0	5.2	14.0	2.4	8.5	2.8	2.8
16	.3	.0	1.7	.7	.0	2.0	5.8	9.1	12.0	11.0	2.6	3.6
17	.1	.0	1.5	.6	.0	1.8	10.0	7.2	25.0	7.2	2.4	4.1
18	.1	.0	1.4	.5	.0	3.0	9.0	5.4	15.0	5.1	2.4	4.3
19	.4	.0	1.2	.4	.0	1.0	7.0	6.9	10.0	4.3	2.4	4.3
20	.1	.0	1.1	.2	.0	1.8	5.0	6.5	5.6	3.8	2.4	4.1
21	.1	.0	.8	.1	.0	1.8	7.0	5.6	3.6	3.6	2.2	4.1
22	.1	.0	1.0	.1	.0	1.7	5.0	4.0	2.8	4.3	2.0	3.8
23	.1	.2	1.0	.1	.0	1.7	50.0	3.4	2.3	11.0	2.0	3.8
24	.1	4.7	1.0	.4	.0	1.5	25.0	2.8	2.1	8.5	1.8	3.6
25	.1	3.2	.8	1.0	.0	1.4	18.0	2.1	.7	5.9	1.6	3.2
26	.1	2.6	.8	1.0	.0	1.4	9.0	1.7	.0	5.1	1.6	2.8
27	.1	2.0	1.0	1.1	.0	1.4	5.5	1.2	.0	4.6	1.6	2.6
28	.1	2.0	3.0	1.0	.0	1.2	4.4	.0	.0	3.6	1.6	2.4
29	.1		3.4	.6	.0	1.2	3.7	.0	1.8	3.0	1.4	2.2
30	.0		2.5	.4	.0	1.2	8.7	.0	2.8	2.8	1.4	2.0
31	.0		1.7		.0		43.0	1.4		7.0		1.8
MEAN	.35	.76	2.61	.75	.02	1.27	7.91	15.4	5.82	6.52	3.97	2.35
INCHES	.03	.05	.19	.05	.00	.09	.58	1.13	.41	.48	.28	.17

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY MULTIPLY BY .002368. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE POOR. SOME DIVERSION DURING LOW FLOW FOR IRRIGATION. OCTOBER, NOVEMBER, DECEMBER ARE PROVISIONAL DATA NOT VERIFIED BY PUBLICATION. PROBABLY ACCURATE WITHIN 5 TO 15 PERCENT.

1965 SELECTED RUNOFF EVENT						VERO BEACH, FLORIDA (TAYLOR CREEK) WATERSHED W-3					8.3
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF <u>1/</u>				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of August 6 - 12, 1965											
8-6	.00	.00	8-6	2 RG	AVG <u>2/</u>		8-6	0000	26	.0000	
				1400	.00	.00		1200	24	.0296	
				1500	.04	.04		2400	23	.0580	
				1600	.00	.04		1200	22	.0840	
				1700	.20	.24		2400	28	.1136	
8-7			8-7	1200	.00	.24	8-8	1200	40	.1539	
				1300	.13	.37		2400	66	.2167	
				1400	.07	.44		1200	116	.3245	
				1400	.00	.44		2400	84	.4429	
				1600	.50	1.44		1200	60	.5258	
8-8			8-8	1700	.03	1.47	8-9	2400	44	.5874	
				1000	.00	1.47		1200	34	.6336	
				1100	.07	1.54		2400	26	.6691	
				1200	.00	1.54		1200	20	.6963	
				1300	.18	1.72					
Watershed conditions:			8-9				8-10				
Approximate land use (from SCS)											
30% in improved pasture											
60% in range and forest											
10% in miscellaneous											

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00009868. FOR MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES 1956-59, USDA MISC. PUB. 945, P. 8.2-4. FOR 30-DAY ANTECEDENT P AND Q SEE TABLE ABOVE AND THAT ON PREVIOUS PAGE. 1/ RATES BASED ON MEAN DAILY FLOWS ONLY. GATE CONTROL PARTIALLY OPEN DURING PEAK FLOWS. 2/ PRECIPITATION IS ARITHMETICAL AVERAGE OF 2 GAGES. 3/ END OF EVENT.



VERO BEACH, FLORIDA WATERSHED W-3

MONTHLY PRECIPITATION <sup>1/</sup> AND RUNOFF <sup>2/</sup> (inches)						VERO BEACH, FLORIDA (MONREVE RANCH) WATERSHED W-4 AREA — 3,970 ACRES (6.2 SQ. MILES)							8.4
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P	.73	4.86	4.26	.31	1.46	10.70	8.05	5.54	5.36	10.84	.82	.93	53.86
I <sup>3/</sup>	.60	.14	.29	1.20	1.91	1.52	.00	.00	.00	.00	.00	.00	5.66
Q	.41	.45	.50	.63	.56	3.69	2.72	2.31	.47	5.19	.58	.20	17.71
STA AV 4/P	1.51	2.66	2.23	2.73	4.94	6.36	6.60	7.48	8.26	6.67	2.04	2.16	53.64
(61-65)3/I	.64	.52	1.05	1.20	.74	.40	.03	.04	.02	.03	.08	.26	5.01
(59-65) Q	.74	.52	.48	.72	.86	1.37	1.92	2.37	3.58	3.48	1.01	.65	17.70
MEAN P 5/ 65 YR	2.30	2.50	3.00	3.36	4.18	5.81	5.55	5.62	7.96	7.38	2.70	2.09	52.45

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS <sup>6/</sup>

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	6-18	.023	6-18	.023	6-18	.045	6-18	.132	6-18	.252	6-18	.474	6-18	.798	6-15	2.09
MAXIMUMS FOR PERIOD OF RECORD																
1959 TO 1965	9-23 1960	.19	9-23 1960	.19	9-23 1960	.37	9-23 1960	1.02	9-23 1960	1.68	9-24 1960	2.33	9-23 1960	4.08	9-22 1960	9.20

NOTES: Watershed conditions: native range, 70%; improved pasture, 30%. 1/ Precipitation Thiessen weighted using 5 gages. 2/ Runoff data furnished by U.S. Geological Survey. 3/ (I) denotes pumped irrigation which augmented natural rainfall on area. 4/ Precipitation records began Jan. 1959, irrigation in Jan. 1960, and runoff records, July 1959. 5/ Mean P based on 65-yr (1901-1965) U.S. Weather Bureau record period at Fort Pierce No. 1, Fla. 6/ Based on daily mean flows only.

1965 DAILY PRECIPITATION (inches)						VERO BEACH, FLORIDA (MONREVE RANCH) WATERSHED W-4							8.4
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.47	.35	.00	.00	.00	.00	.56	.00	.00	.00	.00	.00
3	.00	.00	.26	.00	.00	.00	.00	1.29	.00	.00	.00	.00	.00
4	.00	.00	.12	.00	.00	.02	.00	.15	.00	.00	.00	.00	.00
5	.00	.34	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
6	.00	.18	.00	.00	.00	.00	.00	.00	.39	1.54	.00	.00	.00
7	.00	1.74	.00	.00	.00	.06	.00	.01	.26	.18	.00	.00	.00
8	.00	.00	.00	.00	.00	.31	.00	.00	.32	.01	.00	.00	.00
9	.04	.00	.00	.00	.00	1.20	.00	.08	.05	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.36	.52	.00	.00	.00	.00	.00	.00
11	.01	.00	.00	.00	.00	.05	.32	.09	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	1.09	1.12	.02	.00	.00	.00	.03	.00
13	.00	.00	.00	.00	1.17	.02	.08	.00	.00	.20	.00	.21	.00
14	.00	.00	.48	.00	.00	.14	.54	.00	.00	3.71	.00	.00	.00
15	.00	.00	.22	.00	.00	2.80	.05	.00	.02	.43	.00	.00	.00
16	.09	.01	.00	.00	.00	.11	.12	.00	.05	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.10	.00	.01	1.00	.02	.00	.00	.00
18	.00	.24	.00	.00	.00	2.92	.08	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.02	.65	.00	.00	.00	.00	.19	.00
20	.00	.00	.07	.00	.00	.00	1.16	2.36	.00	1.35	.00	.44	.00
21	.00	.21	.06	.00	.00	.00	.00	.00	.03	.41	.00	.00	.00
22	.42	.08	.46	.15	.00	.00	.77	.00	.03	1.01	.00	.00	.00
23	.00	1.31	.00	.00	.07	.00	.10	.00	.19	.33	.75	.00	.00
24	.00	.05	.00	.11	.22	.00	.00	.00	.34	.00	.00	.00	.00
25	.00	.23	.00	.00	.00	.00	.00	.00	1.26	.00	.00	.00	.00
26	.00	.00	.05	.00	.00	1.27	.00	.79	.11	.00	.00	.00	.00
27	.00	.00	.03	.05	.00	.12	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.77	.00	.00	.10	.20	.00	1.09	.00	.01	.00	.00
29	.00	.00	.09	.00	.00	.01	1.59	.00	.18	.00	.03	.04	.00
30	.17	-----	.00	.00	.00	.00	.75	.00	.04	.17	.01	.02	.00
31	.00	-----	1.39	-----	.00	-----	.00	.18	-----	1.48	-----	.00	.00
TOTAL	0.73	4.86	4.26	0.31	1.46	10.70	8.05	5.54	5.36	10.84	0.82	0.93	
STA AV	1.51	2.66	2.23	2.73	4.94	6.36	6.60	7.48	8.26	6.67	2.04	2.16	

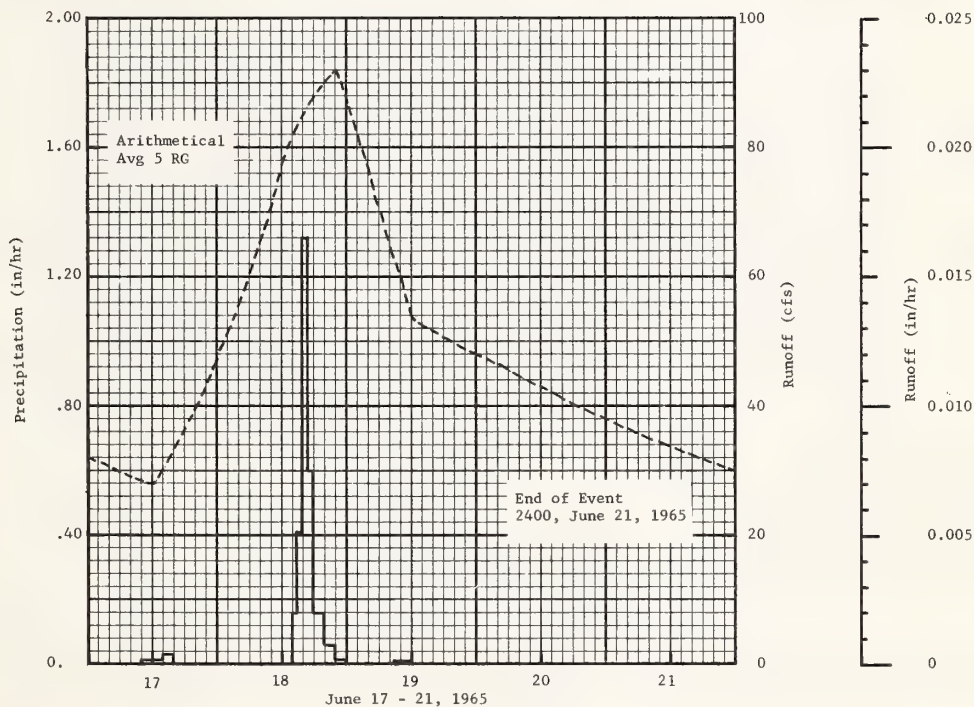
NOTES: THIESSEN WEIGHTED RAINFALL 5 GAGES. STA AV BASED ON PERIOD FROM JANUARY 1959 THROUGH 1965.



1965 DAILY IRRIGATION (inches)						VERO BEACH, FLORIDA (MONREVE RANCH) WATERSHED W-4 8.4						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.00	.00	.00	.00	.04	.12	.00	.00	.00	.00	.00	.00
2	.00	.07	.00	.00	.00	.12	.00	.00	.00	.00	.00	.00
3	.00	.07	.00	.00	.08	.12	.00	.00	.00	.00	.00	.00
4	.05	.00	.00	.00	.04	.12	.00	.00	.00	.00	.00	.00
5	.10	.00	.00	.00	.08	.12	.00	.00	.00	.00	.00	.00
6	.03	.00	.00	.09	.05	.12	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.03	.08	.12	.00	.00	.00	.00	.00	.00
8	.04	.00	.00	.00	.12	.12	.00	.00	.00	.00	.00	.00
9	.04	.00	.00	.06	.08	.12	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.03	.12	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.07	.12	.00	.00	.00	.00	.00	.00
12	.00	.00	.04	.09	.04	.12	.00	.00	.00	.00	.00	.00
13	.04	.00	.05	.04	.06	.08	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
15	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.04	.03	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.03	.12	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.08	.07	.00	.00	.00	.00	.00	.00	.00
19	.07	.00	.00	.12	.03	.00	.00	.00	.00	.00	.00	.00
20	.09	.00	.03	.11	.00	.00	.00	.00	.00	.00	.00	.00
21	.01	.00	.04	.09	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.12	.06	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.09	.04	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.04	.11	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.04	.01	.12	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.05	.02	.12	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.09	.12	.00	.00	.00	.00	.00	.00	.00
30	.06	-----	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.12	-----	.00	.00	-----	.00	-----	.00
TOTAL	0.60	0.14	0.29	1.20	1.91	1.52	0.0	0.0	0.0	0.0	0.0	0.0
STA AV	0.64	0.52	1.05	1.20	0.74	0.40	0.03	0.04	0.02	0.03	0.08	0.26
NOTES: IRRIGATION COMPUTED FROM STAGE-LIFT CURVE AGAINST HOURS OF PUMP OPERATION. STA AV IS BASED ON PERIOD OF 1961 THROUGH 1965.												
1965 MEAN DAILY DISCHARGE (cfs)						VERO BEACH, FLORIDA (MONREVE RANCH) WATERSHED W-4 8.4						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	2.6	1.6	2.5	3.3	3.0	1.8	6.0	26.0	3.5	6.9	18.0	1.2
2	1.6	1.7	2.3	3.1	3.0	1.5	4.4	20.0	3.1	4.2	11.0	1.2
3	1.4	2.2	2.5	3.1	3.1	1.4	3.0	32.0	2.5	2.5	6.6	1.2
4	1.4	2.3	3.3	3.1	3.3	1.4	2.5	49.0	2.0	2.5	4.2	1.2
5	2.3	2.0	3.5	3.0	3.1	1.2	2.0	34.0	1.8	2.3	2.8	1.2
6	2.8	1.8	3.0	3.1	3.9	1.2	1.7	25.0	1.7	19.0	2.2	1.1
7	2.3	2.6	2.5	3.9	3.5	1.2	1.4	18.0	2.0	46.0	2.2	1.1
8	2.0	5.0	2.3	3.9	5.4	2.5	1.2	14.0	3.1	33.0	2.2	1.0
9	2.5	7.6	2.3	3.9	5.3	8.8	1.2	10.0	2.6	13.0	2.2	1.0
10	2.3	4.4	2.2	4.6	3.1	17.0	2.8	8.8	2.2	5.1	2.2	1.0
11	2.2	3.1	2.2	4.6	3.7	13.0	4.9	7.6	1.7	3.7	2.2	.9
12	2.2	2.5	2.2	4.9	3.5	33.0	19.0	6.9	1.4	3.1	2.2	.8
13	2.2	2.2	5.1	5.0	3.5	17.0	16.0	6.0	1.2	2.6	2.2	.8
14	2.3	2.2	2.5	4.2	2.8	20.0	26.0	5.4	.9	14.0	2.2	.8
15	2.5	2.2	2.5	3.1	2.3	49.0	22.0	4.9	.5	79.0	2.2	.8
16	2.5	2.0	2.3	2.8	2.0	35.0	26.0	4.2	.5	59.0	2.2	.8
17	2.5	2.0	2.3	2.8	2.8	28.0	23.0	3.9	1.4	43.0	2.2	.7
18	2.3	2.0	2.3	3.0	3.0	79.0	20.0	3.1	1.7	27.0	2.2	.8
19	2.5	1.9	2.2	3.7	3.1	54.0	33.0	2.6	1.6	18.0	2.3	1.0
20	3.1	1.8	4.9	3.7	2.3	43.0	47.0	6.8	1.2	35.0	2.2	1.2
21	3.0	1.8	2.4	3.5	2.0	34.0	22.0	25.0	1.0	64.0	1.9	1.0
22	2.8	1.7	2.3	3.5	1.9	26.0	16.0	16.0	.9	71.0	1.8	1.0
23	2.6	2.0	2.2	4.2	2.2	20.0	24.0	10.0	1.0	72.0	1.8	1.0
24	2.5	2.5	2.2	3.5	2.3	16.0	17.0	7.2	1.1	72.0	1.9	.9
25	2.2	3.7	2.3	3.1	2.0	12.0	14.0	5.7	1.8	55.0	3.7	.9
26	1.9	3.7	2.3	2.8	2.6	21.0	9.2	5.4	5.4	41.0	3.1	.9
27	1.6	3.5	2.3	3.0	3.0	38.0	7.2	8.0	4.4	26.0	2.3	.9
28	1.4	3.0	2.9	2.8	3.5	20.0	5.7	6.2	4.6	15.0	2.0	.9
29	1.4	-----	3.1	2.8	3.1	11.0	9.8	5.1	12.0	8.8	1.8	.9
30	1.4	-----	2.6	2.8	2.6	8.0	31.0	4.2	9.6	7.6	1.5	1.0
31	1.8	-----	3.1	-----	2.0	-----	35.0	3.7	-----	14.0	-----	1.1
MEAN	2.20	2.68	2.66	3.49	3.00	20.5	14.6	12.4	2.61	27.9	3.25	.98
INCHES	.41	.45	.50	.63	.56	3.69	2.72	2.31	.47	5.19	.58	.18
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY MULTIPLY BY .005998. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR TO POOR. FLOW OCCASIONALLY REGULATED BY STOPLOG CONTROL 1,500 FT UPSTREAM. IRRIGATION INFLOW EXCESS INCLUDED IN DISCHARGE. OCTOBER, NOVEMBER, DECEMBER ARE PROVISIONAL DATA NOT VERIFIED BY PUBLICATION.												

1965			SELECTED RUNOFF EVENT				VERO BEACH, FLORIDA (MONREVE RANCH) WATERSHED W-4				8.4	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF <u>1/</u>					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
			Event of June 17-21, 1965									
			5 RG		AVG <u>2/</u>							
6-17	.00	.00	6-17	1000	.00	.00	6-17	0000	32	.0000		
				1400	.01	.04		1200	28	.0900		
				1600	.03	.10		2400	47	.2040		
			6-18	1400	.00	.10	6-18	1200	78	.3898		
				1500	.16	.26		2200	92	.6022		
				6-19	1600	.41	.67	6-19	1200	54	.8576	
					1700	1.32	1.99		2400	48	1.011	
			1800		.60	2.59	6-20	1200	43	1.148		
			2000	.16	2.91	2400		38	1.268			
			2200	.06	3.03	6-21	1200	34	1.376			
2400	.01	3.05	2400	30	<sup>3/</sup> 1.472							
0900	.00	3.05										
1200	.01	3.08										
<u>Watershed conditions:</u>												
Approximate land use:												
(from SCS)												
70% in native range												
30% in improved pasture												
Good cover on entire area												

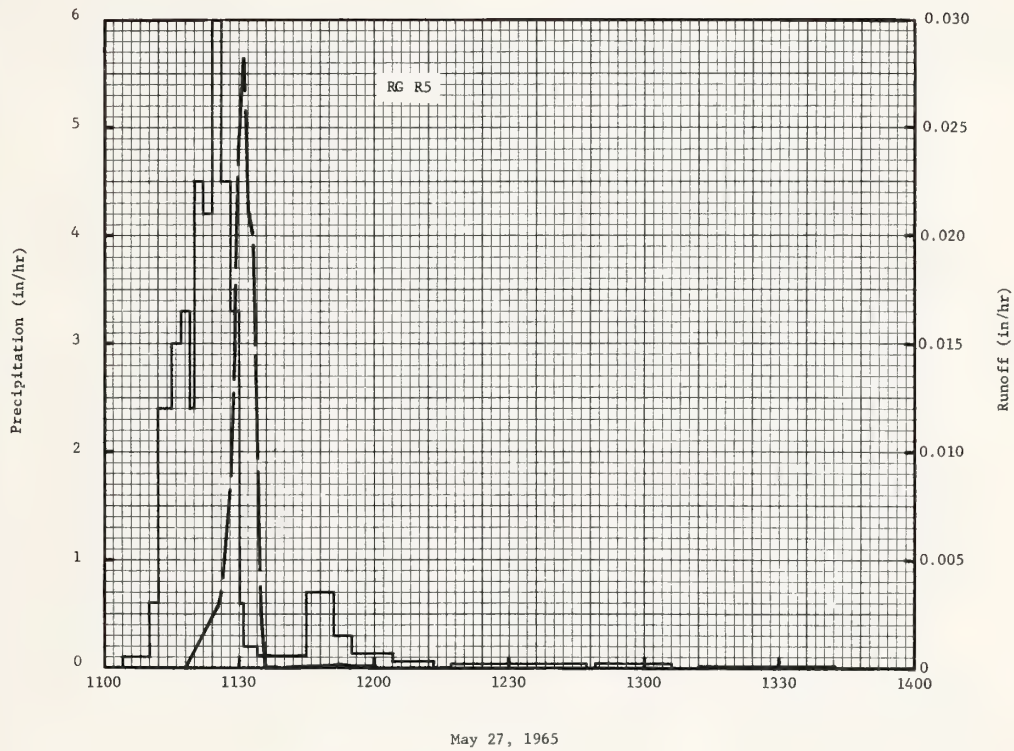
NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0002499. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES 1962, USDA MISC. PUB. 1070, P. 8.4-11. FOR 30-DAY ANTECEDENT P AND Q SEE TABLES ON PREVIOUS PAGES. 1/ RUNOFF COMPUTED FROM PLOTTINGS OF DAILY MEAN FLOWS ONLY. STAGE RECORDER INOPERABLE DURING PORTIONS OF EVENT. 2/ PRECIPITATION ARITHMETICAL AVERAGE OF 5 GAGES. 3/ END OF EVENT.



VERO BEACH, FLORIDA WATERSHED W-4

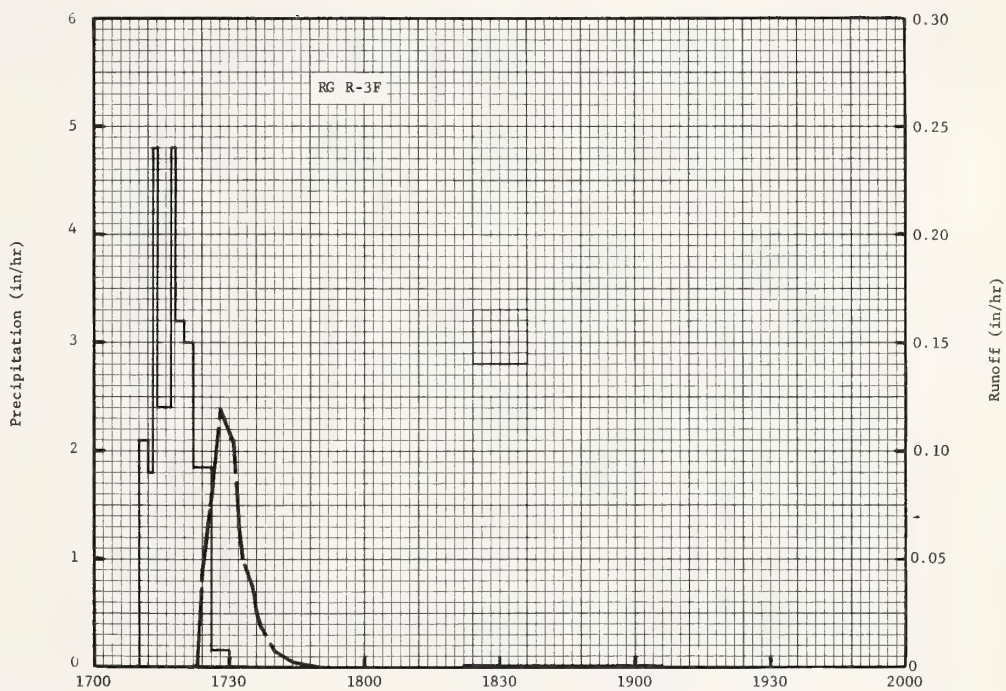
MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA WATERSHED W-III AREA—19.3 ACRES										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sub>1</sub> / Q	3.54 T	2.37 T	3.85 T	2.97 T	3.30 T	3.46 T	5.14 T	3.74 T	2.58 T	3.67 T	1.09 T	.22 .00	35.93 T		
STA AVG <sub>2</sub> (40-65) O		2.68 .07	2.84 .01	3.30 T	3.03 .03	3.56 .05	3.77 .11	3.93 .06	3.61 .04	2.92 .01	2.29 T	2.20 .01	2.67 .01	36.80 .40		
MEAN P <sub>3</sub> / 75 YR		3.18	3.08	3.66	3.14	3.66	4.11	4.65	3.94	3.00	2.71	2.36	3.03	40.52		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-27	.03	5-27	T	5-27	T	5-27	T	5-27	T	5-27	T	5-27	T	5-27	T
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-5 1942	1.90	6-16 1942	.49	6-16 1942	.50	1-21 1964	.80	1-21 1964	.92	1-21 1964	.92	1-20 1964	1.32	1-19 1964	1.52
NOTES: Watershed conditions: 89% cultivated; contour strips with a rotation of corn, small grain and clover. 9% pasture, usually good cover. 2% woodland. 1/ Precipitation obtained from rain gage R-5. 2/ Determined from continuous records, 1940-65; precipitation and runoff records began May 1939. 3/ Mean P based on 75-yr (1891-1965) U. S. Weather Bureau record period at Blacksburg, Virginia. Missing records for 11 months were estimated from nearby Weather Bureau records at Christiansburg, Va. and Va. Agr. Expt. Sta. at Blacksburg, Va.																
1965 SELECTED RUNOFF EVENT						BLACKSBURG, VIRGINIA WATERSHED W-III 13.02										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG R5		Event of May 27, 1965													
				RG	R5											
4-27	.16	.0000	5-27	1104	.00	.00	5-27	1118	.0000	.0000						
5-5	.06	.0000		1110	.10	.01		1125	.0028	.0000			T			
5-6	.10	.0000		1112	.60	.03		1126	.0035	.0001						
5-7	.06	.0000		1115	2.40	.15		1128	.0082	.0003						
5-8	.20	.0000		1117	3.00	.25		1129	.0148	.0005						
5-10	.05	.0000		1119	3.30	.36		1130	.0239	.0009						
5-12	.06	.0000		1120	2.40	.40		1131	.0282	.0014						
5-20	.59	T		1122	4.50	.55		1132	.0210	.0018						
5-21	.26	T		1124	4.20	.69		1133	.0201	.0021						
5-23	.04	.0000		1126	6.00	.89		1135	.0026	.0025						
5-25	.10	.0000		1128	4.50	1.04		1136	.0000	.0025						
5-26	.02	.0000		1130	3.30	1.15		1150	.0001	.0025						
				1131	.60	1.16		1152	.0002	.0025						
				1134	.20	1.17		1155	.0001	.0025						
				1145	.11	1.19		1200	.0001	.0025						
				1151	.70	1.26										
				1155	.30	1.28										
				1204	.13	1.30										
				1213	.07	1.31										
				1217	.00	1.31										
				1247	.04	1.33										
				1249	.00	1.33										
				1306	.04	1.34										
				1312	.00	1.34										
				1342	.02	1.35										
Watershed conditions Contour strips - orchardgrass and clover 36 to 42 in. high, 52%; corn, clean tilled 4 to 6 ft. high, 24%; barley 36 to 39 in. high, 13%; pasture, good cover, 9%; woods, good cover. 2%.																
NOTES: TO CONVERT IN/HR TO CFS, MULTIPLY BY 19.4544. FOR MAP OF WATERSHED, SEE SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, JANUARY 1960, P. 13.2-4. 4/ RAINFALL BETWEEN 0217 AND 1944.																





BLACKSBURG, VIRGINIA WATERSHED W-III

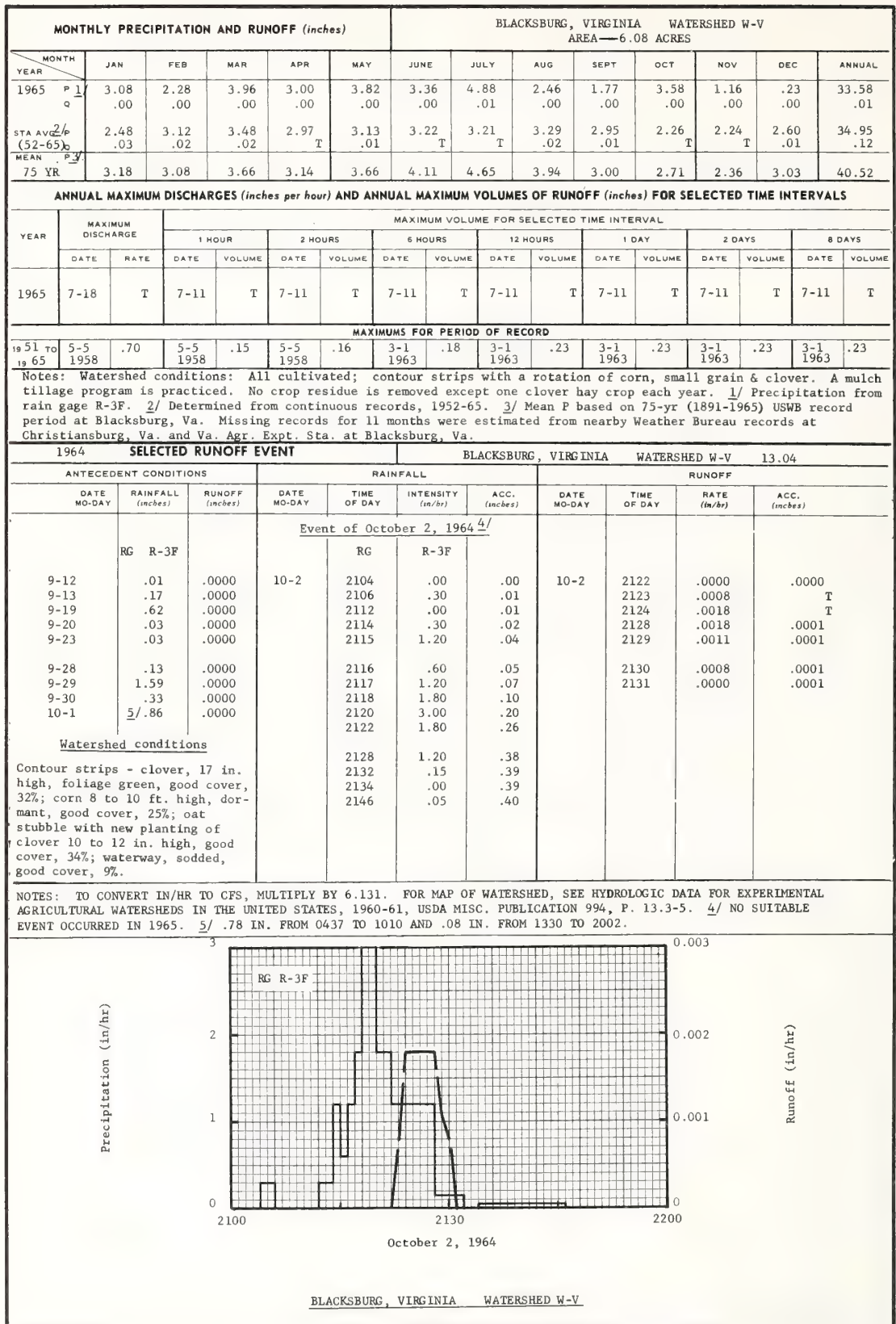
MONTHLY PRECIPITATION AND RUNOFF (inches)							BLACKSBURG, VIRGINIA WATERSHED W-IV AREA—3.49 ACRES									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sub>1</sub> /Q	3.08 .00	2.28 .00	3.96 .00	3.00 .00	3.82 T	3.36 .00	4.88 .03	2.46 .00	1.77 .00	3.58 .00	1.16 .00	.23 .00	33.58 .03		
STA AVG=P <sub>2</sub> /Q <sub>2</sub>		2.48 .03	3.12 .01	3.48 .01	2.97 .01	3.13 .02	3.22 .01	3.21 .01	3.29 .04	2.95 .02	2.26 T	2.24 T	2.60 T	34.95 .16		
MEAN P <sub>3</sub> /Q <sub>3</sub>																
75 YR		3.18	3.08	3.66	3.14	3.66	4.11	4.65	3.94	3.00	2.71	2.36	3.03	40.52		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-7	.12	7-7	.02	7-7	.02	7-7	.02	7-7	.02	7-7	.02	7-7	.02	7-7	.02
MAXIMUMS FOR PERIOD OF RECORD																
19 51 TO 19 65	5-5 1958	.75	5-5 1958	.21	5-5 1958	.21	5-5 1958	.23	5-5 1958	.24	5-5 1958	.24	5-5 1958	.24	5-5 1958	.24
NOTES: Watershed conditions: All cultivated; contour strips with rotation of corn, small grain and clover. A mulch tillage program is practiced. No crop residue is removed except one clover hay crop each year. 1/ Precipitation obtained from rain gage R-3F. 2/ Determined from continuous records, 1952-65; precipitation and runoff records began September 1951. 3/ Mean P based on 75-yr (1891-1965) U. S. Weather Bureau record period at Blacksburg, Virginia. Missing records for 11 months were estimated from nearby Weather Bureau records at Christiansburg, Va. and Va. Agr. Expt. Sta. at Blacksburg, Va.																
1965 SELECTED RUNOFF EVENT							BLACKSBURG, VIRGINIA WATERSHED W-IV 13.03									
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG R-3F		Event of July 7, 1965													
				RG	R-3F											
6-8	.02	.0000	7-7	1710	.00	.00	7-7	1721	.0000	.0000						
6-11	.28	.0000		1712	2.10	.07		1723	.0014	.0014	T					
6-12	.60	.0000		1713	1.80	.10		1724	.0443	.0004						
6-15	.76	.0000		1714	4.80	.18		1726	.0796	.0025						
6-16	.17	.0000		1717	2.40	.30		1728	.1196	.0058						
6-23	.02	.0000		1718	4.80	.38		1731	.1037	.0114						
6-24	.77	.0000		1720	3.20	.52		1732	.0665	.0128						
6-30	.15	.0000		1722	3.00	.62		1733	.0512	.0138						
7-3	.14	.0000		1726	1.85	.75		1735	.0381	.0153						
7-5	.04	.0000		1730	.15	.76		1736	.0267	.0158						
7-7	4/.26	.0000		1822	.00	.76		1737	.0196	.0162						
				1906	.01	.77		1738	.0153	.0165						
								1740	.0082	.0169						
								1743	.0040	.0172						
								1744	.0031	.0173						
								1750	.0000	.0175						
Watershed conditions																
Contour strips - corn 5 to 6 ft. high, seeded in sod killed mulch, excellent cover, 48%; oats, 2½ to 3 ft. high, ripening, 21%; clover and orchardgrass mixture 12 to 18 in. high, good cover, 31%.																
NOTES: TO CONVERT IN/HR TO CFS, MULTIPLY BY 3.519. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. NO. 994, P. 13.3-5. 4/ RAINFALL FROM 1204 TO 1346.																



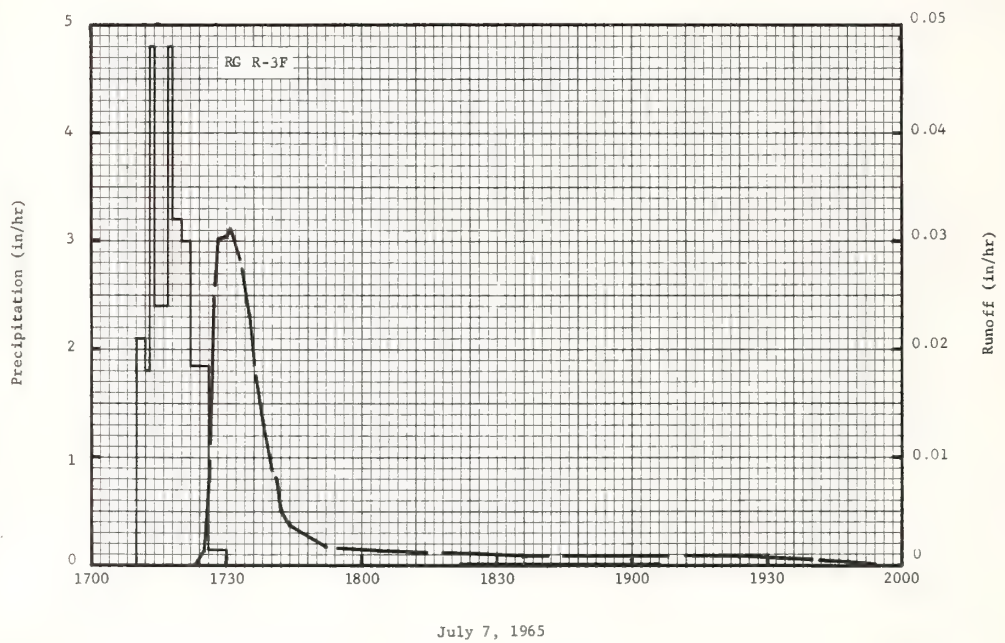
July 7, 1965

BLACKSBURG, VIRGINIA WATERSHED W-IV





MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA WATERSHED W-VI AREA—7.70 ACRES										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	3.08 .00	2.28 .00	3.96 .01	3.00 .00	3.82 .00	3.36 .00	4.88 .03	2.46 .00	1.77 .00	3.58 .00	1.16 .00	.23 .00	33.58 .04			
STA AVG <sub>2</sub> / (52-65) <sub>Q</sub>	2.48 .06	3.12 .06	3.48 .06	2.97 .04	3.13 .04	3.22 .02	3.21 .02	3.29 .06	2.95 .04	2.26 .01	2.24 .01	2.60 .05	34.95 .47			
MEAN P <sub>3</sub> / 75 YR	3.18	3.08	3.66	3.14	3.66	4.11	4.65	3.94	3.00	2.71	2.36	3.03	40.52			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-7	.03	7-8	.01	7-8	.02	7-8	.02	7-8	.02	7-8	.02	7-8	.02	7-8 <sup>9</sup>	.02
MAXIMUMS FOR PERIOD OF RECORD																
19 51 TO 19 65	5-5 1958	.95	8-8 1958	.27	8-8 1958	.30	5-5 1958	.32	5-5 1958	.35	5-5 1958	.39	5-5 1958	.44	5-5 1958	.46
NOTES: Watershed conditions: All cultivated; contour strips with a rotation of corn, small grain and clover. A mulch tillage program is practiced. No crop residue is removed except one clover hay crop each year. 1/ Precipitation obtained from rain gage R-3F. 2/ Determined from continuous records, 1952-65; precipitation and runoff records began September 1951. 3/ Mean P based on 75-yr (1891-1965) U. S. Weather Bureau record period at Blacksburg, Virginia. Missing records for 11 months were estimated from nearby Weather Bureau records at Christiansburg, Va. and Va. Agr. Exp. Sta. at Blacksburg, Va.																
1965 SELECTED RUNOFF EVENT						BLACKSBURG, VIRGINIA WATERSHED W-VI 13.05										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches) *	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG R-3F		Event of July 7, 1965													
				RG	R-3F											
6-8	.02	.0000	7-7	1710	.00	.00	7-7	1723	.0000	.0000						
6-11	.28	.0000		1712	2.10	.07		1725	.0014	.0000	T					
6-12	.60	.0000		1713	1.80	.10		1726	.0079	.0001						
6-15	.76	.0000		1714	4.80	.18		1727	.0249	.0004						
6-16	.17	.0000		1717	2.40	.30		1728	.0301	.0009						
	.															
6-23	.02	.0000		1718	4.80	.38		1730	.0304	.0019						
6-24	.77	.0000		1720	3.20	.52		1731	.0312	.0024						
6-30	.15	.0000		1722	3.00	.62		1733	.0283	.0034						
7-3	.14	.0000		1726	1.85	.75		1735	.0232	.0043						
7-5	.04	.0000		1730	.15	.76		1736	.0187	.0047						
7-7	4/.26	.0000		1822	.00	.76		1738	.0133	.0052						
				1906	.01	.77		1740	.0089	.0056						
								1741	.0079	.0057						
								1742	.0053	.0058						
								1744	.0037	.0060						
Watershed conditions																
Contour strips - corn 5 to 6 ft. high, in sod killed mulch, excellent cover, 29%; oats 2½ to 3 ft. high ripening, 23%; clover and orchardgrass mixture, good cover 12 to 18 in. high, 29%; grassed waterway and buffer strip, good cover, 19%.																
								1752	.0018	.0064						
								1804	.0014	.0067						
								1836	.0009	.0073						
								1924	.0009	.0080						
								1940	.0006	.0082						
								1954	.0000	.0082						
NOTES: TO CONVERT IN/HR TO CFS, MULTIPLY BY 7.764. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUBLICATION 994, P. 13.3-5. 4/ RAINFALL FROM 1204 TO 1346.																

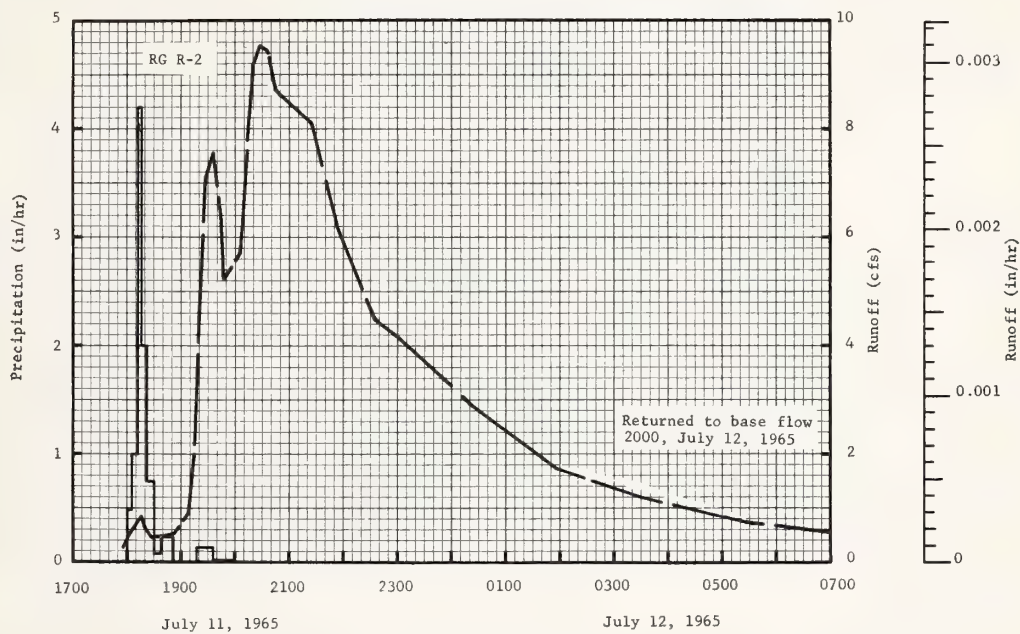


BLACKSBURG, VIRGINIA WATERSHED W-VI



MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA THORNE CREEK W-I 13.06 AREA—3054 ACRES (4.77 SQ. MILES)										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	3.10 .01	2.72 .11	4.08 .20	2.31 .23	3.26 .09	3.25 .04	3.52 .04	2.55 .01	1.60 .01	3.64 .01	.66 T	.10 T	30.79 .75			
STA AVG 2/ (57-65) Q	2.12 .42	2.91 .40	3.73 .71	2.80 .78	3.50 .59	2.55 .35	3.29 .22	3.44 .23	3.52 .14	2.58 .13	2.52 .13	2.69 .24	35.65 4.34			
MEAN P3/ 60 YR	2.93	2.70	3.28	2.77	3.24	3.40	4.23	3.28	2.74	2.72	2.19	2.78	36.26			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-7	.01	2-7	.01	2-7	.01	2-7	.02	2-7	.03	2-7	.03	3-26	.05	3-26	.15
MAXIMUMS FOR PERIOD OF RECORD																
1957 TO 1965	5-17 1958	.12	5-17 1958	.10	5-17 1958	.18	5-17 1958	.30	5-17 1958	.34	5-17 1958	.38	5-17 1958	.47	3-30 1960	1.09
NOTES: Watershed conditions: Pasture, usually good cover of bluegrass and other native grasses and clovers, 58%; corn, 7%; small grain, 4%; alfalfa and other hay crops, 21%; total cultivated, 32%. Farm woods, 4%; idle land, 5%; roads, 1%. 1/ Precipitation Thiessen weighted from R-1, R-2 and R-3. 2/ Determined from continuous records from June, 1957 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 60-year (1906-65) U. S. Weather Bureau record period at Radford 6 WSW, Virginia.																
1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA THORNE CREEK W-I 13.06										
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.41E	.07	.01	.01	.00	.00	.00	.00	.00	.65	.00	.00				
2	.02	.00	.50	.05	.00	.40	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00				
4	.00	.00	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00				
5	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00				
6	.00	.01	.00	.27	.07	.00	.00	.00	.00	.00	.00	.00				
7	.00	1.39	.00	.11	.25	.10	.40	.08	.00	1.82	.00	.00				
8	.00	.03	.00	.04	.22	.07	.21	.35	.00	.02	.00	.00				
9	.11E	.01	.00	.47	.09	.00	.09	.20	.00	.00	.00	.00				
10	.26E	.10M	.00	.00	.00	.00	.04	T	.01	.00	.20	.00				
11	.02	.00	.00	.01	.00	.43	1.19	.00	.00	.00	.01	.00				
12	.00	.07	.00	.00	.10	.57	.03	.00	.35	.00	T	.00				
13	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00				
14	.00	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
15	.00	.03S	.01	.64	.00	.68	.07	.02	.00	.00	.00	.00				
16	.36E	.00	.00	.05	.00	.11	.00	.00	.17	.00	.00	.00				
17	.02E	.00	.75	.00	.00	.00	.02	T	.00	.00	.00	.00				
18	.00	.00	T	.03E	.06	.00	.64	.00	.00	.00	.00	.00				
19	.00	.00	.00	.10	.00	.00	.00	.00	.19	.00	.00	.00				
20	.00	.00	.22	.00	1.09	.00	.00	.00	.00	.00	.00	.06S				
21	.00	.02	.00	.01	.46	.00	.00	.36	.00	.73	.17	T				
22	.00	.00	.00	.00	.00	.00	.00	.57	.00	.39	.09	.00				
23	.28	.00	.00	.11	.28	.01	.00	.00	.44	.00	.00	.00				
24	.36	.27	.17	.07	.01	.64	.00	.46	.11	.00	.00	.00				
25	.00	.56	.99	.13	.23	.00	.00	.51	.00	.03	.00	.04				
26	.00	.00	.76	.19	.00	.00	.00	.00	.00	.00	.00	.00				
27	.00	.00	.00	.02	.29	.00	.01	.00	.00	.00	.19	.00				
28	.00	.01	.00	.00	.02	.01	.36	.00	.00	.00	.00	.00				
29	.00		.47	.00	.09	.00	.31	.00	.00	.00	.00	.00				
30	.24S		.00	.00	.00	.13	.02	.00	.30	.00	.00	.00				
31	.02		.00		.00		.12	.00		.00		.00				
TOTAL	3.10	2.72	4.08	2.31	3.26	3.25	3.52	2.55	1.60	3.64	.66	.10				
STA AV	2.12	2.91	3.73	2.80	3.50	2.55	3.29	3.44	3.52	2.58	2.52	2.69				
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1, R-2 & R-3. STA AV IS FOR PERIOD JUNE, 1957 THROUGH 1965. FOR DRAINAGE PATTERN MAP OF WATERSHED SEE HYDROLOGIC DATA FOR AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, MISC. PUB. 945, P. 13.6-5.																

1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA THORNE CREEK W-1						13.06	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.08	.27	1.92	.42	.17	.10	.03	.01	.05	.03	.01	
2	.00	.08	.35	1.86	.40	.16	.08	.03	.01	.02	.03	.01	
3	.00	.07	.37	1.72	.37	.25	.08	.01	.01	.01	.02	.01	
4	.00	.05	.38	1.62	.37	.20	.07	.01	.01	.01	.02	.01	
5	.00	.07	.44	1.50	.36	.19	.07	.01	.01	.01	.02	.01	
6	.00	.06	.44	1.58	.38	.17	.07	T	.01	.01	.01	.01	
7	.00	3.48	.44	1.40	.39	.17	.11	.01	.01	.07	.01	T	
8	.00	1.71	.41	1.18	.41	.17	.13	T	.01	.44	.01	T	
9	.00	1.02	.40	1.62	.40	.15	.08	.03	.01	.07	.01	.02	
10	.37	.81	.38	1.05	.34	.18	.07	.03	T	.05	.02	.02	
11	.26	.70	.35	1.05	.33	.25	1.35	.02	T	.04	.03	.03	
12	.08	.66	.36	.96	.31	.28	.59	.01	.02	.03	.02	.02	
13	.02	.54	.32	.85	.30	.23	.15	.01	.03	.04	.02	.01	
14	T	.50	.32	.83	.28	.19	.13	T	.02	.04	.01	.01	
15	.00	.47	.31	1.06	.28	.22	.11	.00	.01	.03	.01	.01	
16	.00	.41	.29	.99	.27	.29	.09	.00	T	.03	.01	.01	
17	.00	.36	.53	.76	.27	.23	.08	.00	T	.03	.01	.01	
18	.00	.31	.41	.67	.26	.22	1.34	.00	.00	.02	.01	.01	
19	.00	.23	.34	.72	.25	.19	.16	.00	T	.02	.01	.01	
20	.00	.27	.35	.67	.37	.17	.07	.00	.03	.02	.01	.00	
21	.00	.27	.34	.58	.80	.15	.07	T	.04	.05	.02	T	
22	T	.26	.33	.52	.31	.12	.06	.04	.05	.13	.04	.01	
23	.05	.26	.31	.58	.73	.12	.05	.04	.09	.07	.02	.01	
24	.28	.29	.33	.59	.37	.22	.05	.15	.07	.06	.01	.01	
25	.25	.65	.99	.54	.37	.20	.05	.12	.07	.05	.01	T	
26	.15	.27	3.48	.61	.34	.14	.04	.17	.05	.05	.01	.00	
27	.11	.32	2.61	.50	.34	.13	.03	.04	.04	.04	.03	.00	
28	.09	.29	2.41	.48	.28	.16	.06	.04	.03	.04	.02	.00	
29	.09		2.66	.46	.26	.11	.08	.04	.02	.03	.01	.00	
30	.05	-----	2.20	.44	.20	.16	.07	.03	.01	.03	.01	T	
31	.06	-----	2.00	-----	.19	-----	.04	.02	-----	.03	-----	.01	
MEAN	.06	.52	.81	.98	.35	.19	.18	.03	.02	.05	.02	.01	
INCHES	.01	.11	.20	.23	.09	.04	.04	.01	.01	.01	T	T	
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.0077935.													
1965 SELECTED RUNOFF EVENT						BLACKSBURG, VIRGINIA THORNE CREEK W-1						13.06	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)			
Event of July 11 and 12, 1965													
7-11	RG R-1 1/ .22	2/.0009	7-11	RG 1800	R-2 .00	.00	7-11	1756	.2464	.0000			
				1805	.48	.04		1804	.5851	T			
				1811	1.00	.14		1816	.8315	.0001			
7-11	RG R-2 3/ .17			1816	4.20	.49		1820	.6159	.0001			
				1822	2.00	.69		1828	.4619	.0001			
7-11	RG R-3 4/ .22			1830	.75	.79		1852	.5235	.0002			
				1838	.08	.80		1908	.8930	.0002			
				1851	.23	.85		1914	2.0940	.0003			
				1918	.00	.85		1920	4.5268	.0004			
				1936	.13	.89		1928	7.1136	.0006			
Watershed conditions				2000	.02	.90		1936	7.5755	.0010			
Pasture, mostly a mixture of native grasses, good cover, 58%; hay, alfalfa & orchard grass, good cover, 21%; corn, 5 to 7 ft. tall, fair cover, 7%; small grain stubble, fair cover, 4%; idle, good cover of weeds & grass 2 to 4 ft. tall, 5%; woods, mostly hardwood, 4%; paved roads, 1%.				RG	R-3			1944	6.2821	.0013			
				7-11	1745	.00	.00	1948	5.2351	.0014			
					1747	.30	.01	2004	5.6970	.0018			
					1752	1.56	.14	2012	7.6063	.0021			
					1755	4.20	.35	2020	9.1769	.0025			
					1758	3.40	.52	2028	9.5464	.0029			
					1756	.67	.61	2036	9.4232	.0033			
					1806	.30	.63	2044	8.6841	.0037			
					1810			2124	8.0990	.0055			
					1815	.72	.69	2136	7.3292	.0060			
					1820	.24	.71	2152	6.2206	.0066			
					1830	.12	.73	2236	4.4960	.0079			
					1902	.04	.75	2300	4.1881	.0085			
					1910	.08	.76	2400	3.2643	.0097			
					1935	.07	.79	7-12	0020	2.9255	.0100		
					RG	R-1	.79		0156	1.7245	.0112		
					3 RG	AVG 5/	.81		0328	1.2010	.0119		
NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0003247. FOR 30-DAY ANTECEDENT P & Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/.20 IN. FROM 0710 TO 0810. 2/ CONTINUOUS FLOW PRIOR TO 1756. 3/ FROM 0710 TO 0810. 4/.13 IN. FROM 0710 TO 0810; .01 IN. FROM 0915 TO 1000; .08 IN. FROM 1255 TO 1430. 5/ THIESSEN WEIGHTED FOR RG R-1, R-2 & R-3. 6/ NORMAL BASE FLOW									0528	.7391	.0126		
									0748	.4311	.0130		
									1020	.3079	.0133		
									1440	.2156	.0137		
									2000	6/.1848	.0140		



BLACKSBURG, VIRGINIA THORNE CREEK W-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA AREA—786 ACRES						CRAB CREEK W-I (1.23 SQ. MILES)		13.07											
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL												
1965 P 1 Q	3.32 .46	2.27 .59	3.59 .73	2.33 .43	3.81 .27	2.04 .16	3.42 .16	4.79 .21	3.13 .21	3.52 .23	.74 .12	.08 .10	33.04 3.67												
STA AVE P (57-65)	2.17 .78	2.80 .78	3.41 1.25	2.71 1.04	3.09 .67	2.42 .33	3.79 .30	2.99 .30	3.14 .24	2.50 .25	2.49 .28	2.66 .51	34.17 6.73												
MEAN P 3/ 75 YR	3.18	3.08	3.66	3.14	3.66	4.11	4.65	3.94	3.00	2.71	2.36	3.03	40.52												
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																									
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL																						
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS										
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME									
1965	9-16	.06	9-16	.03	9-16	.04	3-26	.08	3-26	.13	3-26	.18	3-25	.24	3-25	.45									
MAXIMUMS FOR PERIOD OF RECORD																									
19 57 TO 1965	8-25 1961	.17	4-3 1960	.13	4-3 1960	.22	4-3 1960	.32	4-3 1960	.42	4-3 1960	.52	4-3 1960	.73	3-27 1960	1.76									
NOTES: Watershed conditions: Permanent pasture, usually good cover of native bluegrass combined with other grasses and clovers, 57%; farm woods, hardwood predominantly, 13%; cultivated, alfalfa and other hay crops, 23%; corn, 4%; total cultivated, 27%; idle land, 2%; roads, 1%. 1/ Precipitation Thiessen weighted from R-1, R-2, R-3 and R-4. 2/ Determined from continuous records from August, 1957 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 75-yr (1891-1965) U. S. Weather Bureau record period at Blacksburg, Virginia. Missing records for 11 months were estimated from nearby Weather Bureau records at Christiansburg, Va. and Va. Agr. Expt. Sta. at Blacksburg, Va.																									
1965 DAILY AIR TEMPERATURE (degrees F)						BLACKSBURG, VIRGINIA CRAB CREEK W-I										13.07									
DAY	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC		
1	39	30	27	0	63	28	47	29	80	50	81	54	78	59	81	62	75	54	76	52	50	40	39	15	
2	58	32	27	7	49	31	46	26	78	58	82	56	78	56	74	59	70	51	67	44	60	32	53	23	
3	39	28	23	4	57	32	52	23	85	54	74	54	80	65	76	53	70	53	68	44	71	28	43	34	
4	45	26	27	9	45	33	51	38	83	55	63	54	79	53	85	36	70	50	53	36	65	39	39	26	
5	50	25	38	11	33	24	70	36	78	57	70	56	83	61	84	58	68	57	58	30	58	32	52	26	
6	52	36	59	28	30	22	70	54	82	60	82	57	85	60	88	60	70	54	63	28	66	33	45	28	
7	52	31	54	44	41	27	75	53	75	60	80	61	82	65	85	63	77	49	53	45	67	37	35	22	
8	63	42	65	52	44	30	70	47	78	56	80	63	85	64	81	65	83	50	64	43	64	36	51	20	
9	59	42	52	43	39	31	68	48	83	59	82	63	88	64	80	66	84	57	61	39	60	44	56	28	
10	42	28	57	40	36	23	69	42	84	60	86	61	84	64	76	60	87	55	55	41	45	38	55	38	
11	36	25	63	51	40	20	65	50	80	58	79	63	78	64	80	56	77	65	72	38	50	38	64	34	
12	44	23	61	49	45	28	75	53	71	52	80	64	75	63	86	58	68	63	64	35	48	43	61	48	
13	44	26	49	27	49	22	56	42	74	53	78	60	84	60	86	63	78	63	62	28	61	44	64	40	
14	30	18	28	21	51	25	60	38	76	48	76	56	85	65	86	67	80	60	72	39	57	40	44	37	
15	26	11	41	17	51	28	60	43	78	52	61	52	81	66	89	67	83	63	76	41	58	32	48	36	
16	21	15	47	23	59	30	53	39	82	59	54	50	84	62	92	69	82	63	75	44	60	48	46	40	
17	21	9	47	34	46	31	67	34	80	61	70	50	85	58	92	67	80	62	62	44	58	26	44	30	
18	24	14	56	36	65	32	76	49	78	58	66	48	81	59	90	67	84	62	60	41	36	22	40	30	
19	32	10	46	16	45	31	56	44	79	57	72	48	82	61	86	65	84	60	66	44	49	34	36	20	
20	40	21	47	13	31	14	62	42	76	57	80	52	76	60	85	64	78	60	66	50	56	27	31	19	
21	49	24	56	24	33	8	70	39	70	60	81	54	80	60	70	62	82	60	61	53	48	37	36	24	
22	59	31	29	15	50	22	70	51	79	58	84	59	85	61	82	67	80	64	69	51	50	40	50	26	
23	58	45	44	18	64	37	80	52	83	59	86	61	88	66	78	66	72	62	56	40	53	32	58	31	
24	57	40	35	25	58	44	63	45	83	61	79	64	90	66	78	64	72	52	40	35	48	29	56	41	
25	51	37	39	16	44	35	48	42	86	63	72	57	86	71	78	62	60	41	54	28	44	34	55	26	
26	64	39	23	15	66	35	75	44	86	62	72	53	84	67	82	64	67	35	63	29	58	40	36	22	
27	39	20	52	19	53	29	64	45	82	64	72	57	83	67	85	64	62	43	60	33	58	36	42	17	
28	45	19	62	34	65	37	48	43	80	58	86	61	84	62	79	51	58	46	50	30	50	32	46	26	
29	38	23	---	---	62	52	59	42	68	49	86	64	75	62	68	40	72	48	45	20	36	21	50	24	
30	27	10	---	---	52	34	71	45	70	46	81	63	79	58	72	42	68	48	64	18	32	18	62	30	
31	20	-2	---	---	52	28	---	---	77	48	---	---	74	61	74	53	---	---	65	30	---	---	---	64	36
AV.	42	25	44	24	48	29	63	42	78	56	76	57	81	62	81	60	74	55	61	37	53	34	48	28	
MEAN	31.0	32.5	37.0	51.5	66.0	67.0	73.0	82	86	81	86	80	81	81	81	81	81	81	81	81	81	81	81	81	
STA AV	43	24	44	24	53	31	63	39	73	47	79	56	82	60	81	58	76	51	66	40	54	31	44	25	
NOTES: TEMPERATURE DATA FROM CRAB CREEK W-I STATION LOCATED IN MONTGOMERY COUNTY, VIRGINIA, 2 MILES WEST OF CHRISTIANSBURG, VA., NEW RIVER. FOR TOPOGRAPHIC (REVISED DRAINAGE PATTERN) MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 13.7-5.																									

1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA CRAB CREEK W-I							13.07
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.30	.06	.00	.03	.00	.00	.00	.17	.00	.37	.00	.00	.00
2	.02	.01	.44	.03	.00	.34	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.06S	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.25	.00	.00	.00	.00	.00	.00	.00	.01	.00
7	.00	1.12	.00	.04	.04	.00	.16	.64	.00	2.07	.00	.00	.00
8	.00	.00	.00	.03	.90	.00	.43	.05	.00	.08	.00	.00	.00
9	.20M	.02	.00	.37	T	.00	.12	.17	.00	.01	.00	.00	.00
10	1.16M	.01	.00	.00	.00	.00	.00	.00	.00	.00	.24	.00	.00
11	.00	T	.00	.00	.00	.10	.68	.00	.00	.00	.01	.00	.00
12	.00	.10	.00	.00	.10	.47	.01	.00	.24	.00	.04	.00	.00
13	.00	.00	.00	.00	.00	T	.00	.00	.03	.00	.00	.00	.00
14	.00	.24S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.68	.00	.57	.00	.19	.00	.00	.00	.00	.00
16	.46S	.00	.00	.02	.00	.22	.00	.10	2.09	.00	.00	.00	.00
17	.07S	.00	.51	.00	.00	T	.06	.24	.05	.00	.00	.00	.00
18	.00	.00	.01	.00	T	T	.87	.01	.00	.00	.00	.00	.00
19	.00	.00	.00	.17	.00	.00	.00	.17	.00	.00	.00	.00	.00
20	.00	.00	.19S	.00	1.49	.00	.00	.00	.00	.00	.00	.00	.02S
21	.00	.03N	.00	.00	.18	.00	.00	.24	.00	.59	.16E	.01S	.00
22	.00	.00	.00	.00	.00	.00	.00	.35	.00	.40	.14E	.00	.00
23	.18	.00	.00	.10	.02	.00	.00	.01	.28	.00	.00	.00	.00
24	.68	.21M	.05	.12	.00	.10	.00	.32	.22	.00	.00	.00	.00
25	.00	.47M	1.08	.15	.22	.01	.00	1.83	.00	.00	.00	.04	.00
26	.00	.00	.99	.31	.02	.00	.00	.30	.00	.00	.00	.00	.00
27	.00	.00	.00	.03	.77	.00	.00	.00	.00	.00	.15	.00	.00
28	.00	.00	.00	.00	T	.00	.23	.00	.00	.00	.00	.00	.00
29	.00	.00	.26	.00	.07	.00	.58	.00	.00	.00	.00	.00	.00
30	.25S	-----	.00	.00	.00	.12	.01	.00	.22	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL	3.32	2.27	3.59	2.33	3.81	2.04	3.42	4.79	3.13	3.52	.74	.08	
STA AV	2.17	2.80	3.41	2.71	3.09	2.42	3.79	2.99	3.14	2.50	2.49	2.66	

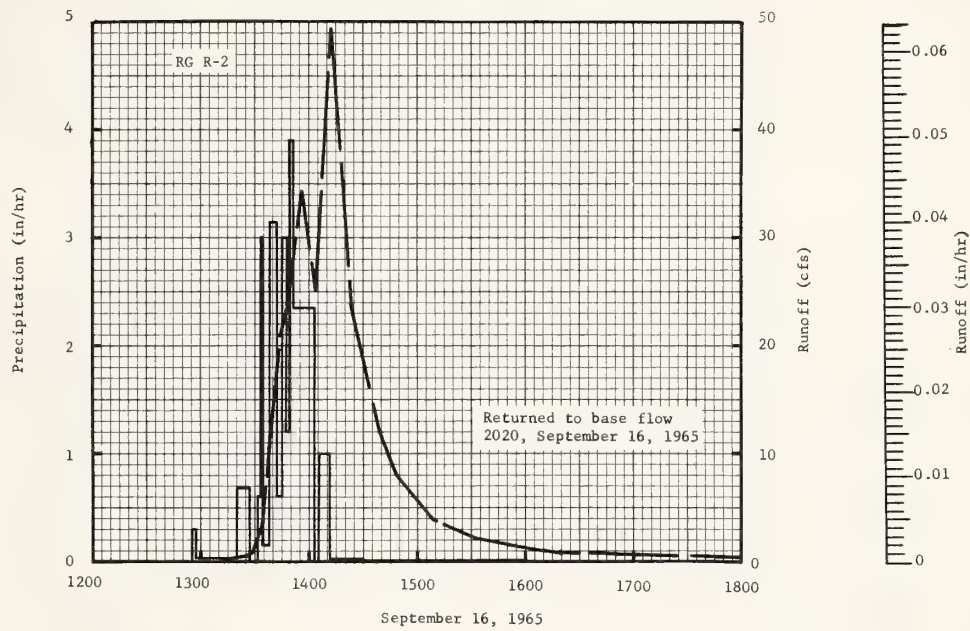
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1, R-2, R-3 AND R-4. STA AV IS FOR PERIOD AUGUST, 1957 THROUGH 1965.

1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA CRAB CREEK W-I							13.07
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.30	.39	.39	.80	.25	.18	.14	.14	.13	.22	.13	.12	
2	.28	.39	.59	.70	.25	.19	.14	.13	.13	.17	.13	.11	
3	.22	.35	.63	.62	.25	.26	.12	.11	.13	.16	.13	.11	
4	.17	.34	.58	.59	.25	.20	.15	.11	.13	.16	.13	.11	
5	.16	.40	.57	.55	.24	.19	.16	.11	.13	.16	.13	.11	
6	.18	.42	.51	.65	.22	.19	.16	.11	.13	.16	.13	.11	
7	.19	3.35	.47	.58	.22	.18	.16	.18	.13	1.36	.13	.11	
8	.19	1.65	.44	.55	.58	.18	.22	.13	.13	.48	.13	.11	
9	.19	1.09	.44	.75	.33	.18	.15	.13	.13	.30	.13	.11	
10	1.54	.93	.41	.50	.25	.18	.16	.14	.13	.25	.14	.11	
11	.83	.78	.39	.46	.25	.18	.18	.13	.13	.23	.14	.11	
12	.57	.79	.39	.44	.25	.24	.23	.13	.15	.21	.13	.11	
13	.44	.60	.37	.41	.24	.19	.16	.13	.14	.21	.13	.11	
14	.36	.56	.37	.41	.24	.16	.16	.13	.13	.21	.13	.11	
15	.30	.62	.37	.61	.22	.22	.16	.14	.13	.21	.13	.11	
16	.31	.61	.34	.57	.21	.30	.16	.17	2.28	.21	.13	.11	
17	.30	.57	.48	.39	.21	.20	.15	.16	.56	.21	.13	.11	
18	.29	.51	.41	.38	.21	.18	.54	.13	.20	.21	.13	.11	
19	.25	.50	.34	.42	.21	.18	.17	.14	.18	.21	.13	.11	
20	.25	.50	.32	.35	.69	.15	.14	.14	.16	.21	.13	.11	
21	.30	.47	.30	.34	.61	.16	.14	.12	.15	.24	.14	.11	
22	.31	.43	.33	.34	.28	.15	.14	.18	.15	.36	.15	.11	
23	.66	.47	.36	.34	.25	.15	.14	.14	.16	.22	.13	.11	
24	1.81	.48	.35	.34	.24	.15	.14	.17	.19	.19	.13	.11	
25	1.46	.92	1.52	.36	.24	.15	.12	2.32	.16	.18	.13	.11	
26	.89	.43	5.79	.47	.24	.15	.11	.44	.15	.16	.13	.11	
27	.61	.39	1.91	.37	.42	.14	.11	.27	.16	.14	.14	.11	
28	.46	.39	1.32	.32	.37	.14	.11	.18	.16	.13	.13	.11	
29	.51	-----	1.51	.30	.26	.14	.21	.14	.16	.13	.13	.11	
30	.54	-----	1.08	.28	.22	.15	.16	.14	.17	.13	.13	.11	
31	.44	.00	.88	.00	.21	.16	.16	.13	.13	.13	.13	.11	
MEAN	.49	.69	.78	.47	.29	.18	.17	.22	.23	.24	.13	.11	
INCHES	.46	.59	.73	.43	.27	.16	.16	.21	.21	.23	.12	.10	

NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.030282.







BLACKSBURG, VIRGINIA CRAB CREEK W-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA BRUSH CREEK W-I 13.08 AREA—893 ACRES (1.40 SQ. MILES)										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P1/	2.30	2.66	3.97	2.66	2.88	2.95	5.72	2.51	2.42	2.83	.79	.11	31.80		
	Q	1.37	1.64	2.24	1.53	1.10	.91	1.46	.68	.60	.88	.66	.62	13.69		
STA AVG 26/		2.16	3.15	3.43	3.06	3.40	2.53	3.85	3.81	4.05	2.64	2.68	2.83	37.59		
	(57-65) Q	1.83	2.06	2.59	2.15	1.68	1.05	1.03	.97	1.32	1.29	1.32	1.71	19.00		
MEAN P3/																
75 YR		3.18	3.08	3.66	3.14	3.66	4.11	4.65	3.94	3.00	2.71	2.36	3.03	40.52		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-10	.10	7-10	.08	7-10	.13	3-26	.19	3-26	.30	3-26	.43	3-25	.65	3-25	1.10
MAXIMUMS FOR PERIOD OF RECORD																
19 57 TO	9-30	1.16	9-30	.62	9-30	.91	9-30	1.62	9-30	2.17	9-29	2.59	9-29	2.81	9-29	3.23
19 65	1959		1959		1959		1959		1959		1959		1959		1959	
NOTES: Watershed conditions: Permanent pasture, usually a fair cover of native grasses, 33%; farm woods, a mixture of hardwoods and conifers, 32%; cultivated, corn, 3%; small grain, 2%; alfalfa and other hay crops, 21%; total cultivated, 26%; idle land, 7%; roads, 2%. 1/ Precipitation Thiessen weighted from R-1 and R-2. 2/ Determined from continuous records from August, 1957 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Blacksburg, Virginia. Missing records for 11 months were estimated from nearby Weather Bureau records at Christiansburg, Va. and Va. Agr. Expt. Sta. at Blacksburg, Va.																
1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA BRUSH CREEK W-I 13.08										
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.13	.05	.00	.01	.00	.00	.00	.23	.00	.50	.00	.00				
2	.03	.00	.52	.04	.00	.15	.00	.00	.00	.00	.00	.00				
3	.00	.00	.03	.00	.00	.13	.00	.00	.00	.00	.00	.00				
4	.00	.00	.14S	.00	.00	.00	1.32	.00	.00	.00	.00	.00				
5	.00	.00	.00	.00	.00	.00	.18	.00	.02	.00	.00	.00				
6	.00	.00	.02	.32	.04	.00	.00	.00	.00	.00	.00	.00				
7	.00	.97	.00	.02	.03	.00	.45	.11	.00	1.76	.00	.00				
8	.00	.00	.00	.02	.42	.00	.18	.04	.00	.00	.00	.00				
9	.15M	.02	.00	.38	.02	.00	.19	.12	.00	.00	.00	.00				
10	.67M	.03	.00	.00	.05	.00	1.18	.00	.00	.00	.24E	.00				
11	.16M	.01	.00	.04	.00	.19	1.21	.00	.03	.00	.02E	.00				
12	.00	.08	.00	.03	.15	.81	.03	.00	.23	.00	.10E	.00				
13	.00	.00	.00	.00	.00	.02	.00	.00	.01	.00	.01E	.00				
14	.00	.32S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
15	.00	.00	.00	.70	.00	.61	.10	.00	.00	.00	.00	.00				
16	.37S	.00	.00	.03	.12	.23	.00	.15	.13	.03	.00	.00				
17	.02S	.00	.50	.00	.00	.00	.00	.01	.00	.00	.00	.00				
18	.00	.00	.04	.00	.00	.00	.24	.00	.00	.00	.00	.00				
19	.00	.00	.00	.09	.00	.00	.00	.02	.00	.00	.00	.00				
20	.00	.00	.20S	.00	.51	.00	.00	.00	1.13	.00	.00	.02				
21	.00	.05N	.00	.00	.13	.00	.00	.15	.00	.17	.09	.01				
22	.00	.00	.00	.00	.00	.00	.00	.10	.00	.37	.20	.00				
23	.13	.00	.00	.05	.00	.39	.00	.00	.15	.00	.00	.00				
24	.45	.20M	.08	.02	.00	.35	.00	.01	.45	.00	.00	.00				
25	.00	.93M	1.20	.25	.27	.00	.00	1.55	.02	.00	.00	.08				
26	.00	.00	1.01	.49	.00	.00	.00	.02	.01	.00	.00	.00				
27	.00	.00	.00	.17	.99	.00	.12	.00	.00	.00	.13	.00				
28	.00	.00	.00	.00	.12	.00	.12	.00	.00	.00	.00	.00				
29	.00		.23	.00	.03	.00	.34	.00	.00	.00	.00	.00				
30	.19S	-----	.00	.00	.00	.07	.06	.00	.24	.00	.00	.00				
31	.00		.00	-----	.00	-----	.00	.00		.00	-----	.00				
TOTAL	2.30	2.66	3.97	2.66	2.88	2.95	5.72	2.51	2.42	2.83	.79	.11				
STA AV	2.16	3.15	3.43	3.06	3.40	2.53	3.85	3.81	4.05	2.64	2.68	2.83				
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1 AND R-2. STA AV IS FOR PERIOD AUGUST 1957 THROUGH 1965. FOR TOPOGRAPHIC (REVISED DRAINAGE PATTERN) MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 13.8-5.																

1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA BRUSH CREEK W-I 13.08						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	1.55	1.32	1.90	2.12	1.39	.95	.76	.98	.65	1.78	.79	.76
2	1.49	1.23	2.91	2.06	1.36	.94	.69	.98	.63	.92	.78	.80
3	1.30	1.18	2.73	1.96	1.34	1.20	.69	.78	.61	.73	.78	.78
4	1.28	1.12	2.59	1.90	1.31	1.09	5.22	.74	.61	.68	.78	.78
5	1.28	1.36	2.42	1.82	1.28	1.08	1.74	.73	.64	.68	.78	.78
6	1.24	1.72	2.13	2.43	1.39	.96	1.16	.70	.63	.68	.78	.78
7	1.21	7.45	2.04	2.00	1.49	.91	1.88	.70	.59	5.51	.78	.78
8	1.21	3.58	1.87	1.73	1.76	.87	1.69	.73	.55	1.51	.78	.78
9	1.22	2.38	1.76	3.00	1.40	.90	1.12	.86	.52	1.08	.78	.74
10	2.84	2.21	1.68	1.88	1.26	.79	7.70	.71	.49	.95	.93	.70
11	2.02	1.94	1.59	1.86	1.22	.89	5.41	.63	.51	.89	1.03	.70
12	1.84	2.08	1.57	1.72	1.33	2.13	4.95	.63	.70	.85	.93	.76
13	1.74	1.71	1.52	1.52	1.23	1.80	1.94	.60	.71	.82	1.02	.78
14	1.48	1.66	1.52	1.47	1.13	.96	1.47	.56	.64	.82	.88	.78
15	1.32	1.55	1.44	2.83	1.10	1.42	1.30	.56	.58	.82	.81	.78
16	1.31	1.46	1.39	2.35	1.17	2.30	1.20	.56	.60	.82	.78	.74
17	1.39	1.79	2.33	1.82	1.13	1.26	1.06	.65	.65	.81	.78	.70
18	1.26	2.01	1.93	1.66	1.07	1.07	1.71	.59	.60	.78	.78	.70
19	1.24	1.96	1.54	1.78	1.04	.96	1.20	.54	.57	.78	.78	.70
20	1.32	1.69	1.57	1.70	1.27	.87	1.09	.53	2.66	.78	.78	.70
21	1.35	1.56	1.65	1.56	1.91	.80	1.01	.69	.91	.95	.82	.78
22	1.72	1.49	1.68	1.49	1.21	.78	.90	.86	.72	1.60	1.12	.78
23	2.52	1.45	1.77	1.57	1.09	2.00	.92	.84	.71	.98	.85	.78
24	3.80	1.63	1.60	1.52	1.06	1.82	.87	.72	1.57	.88	.78	.78
25	2.81	7.67	6.99	2.03	1.18	1.19	.84	4.14	.93	.85	.78	.83
26	2.06	2.30	16.26	2.43	1.19	.91	.83	1.28	.74	.85	.78	.73
27	1.67	2.02	4.62	2.29	3.00	.85	.98	.71	.69	.85	.92	.69
28	1.47	2.08	3.09	1.88	1.61	.81	.92	.66	.69	.85	.77	.69
29	1.45		3.29	1.64	1.32	.76	1.28	.65	.67	.85	.78	.69
30	1.50		2.53	1.46	1.05	.78	1.10	.66	.74	.85	.77	.78
31	1.43		2.25		1.00		.99	.65		.85		.78
MEAN	1.66	2.20	2.72	1.92	1.33	1.14	1.76	.83	.75	1.07	.83	.75
INCHES	1.37	1.64	2.24	1.53	1.10	.91	1.46	.68	.60	.88	.66	.62

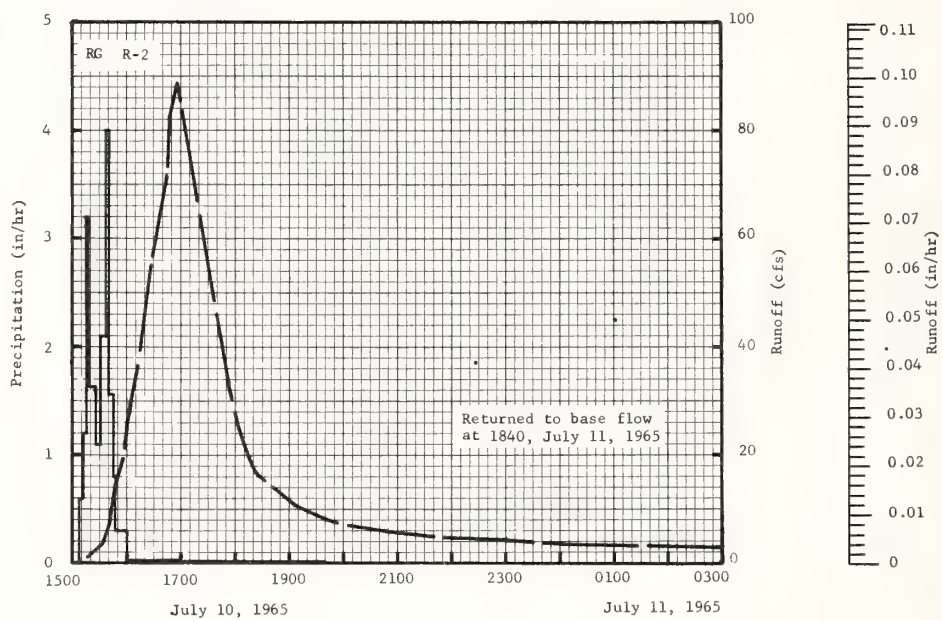
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.026654.

1965 SELECTED RUNOFF EVENT			BLACKSBURG, VIRGINIA BRUSH CREEK W-I 13.08										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)			
7-10	RG'S R-1 and R-2 .00	1/ .0202	Event of July 10-11, 1965				7-10	1516	1.0265	.0000			
			RG	R-2	.00	.00							
			1508	.00	.00	.00							
			1512	.60	.04	.0001							
			1515	1.20	.10	.0006							
			1518	3.20	.26	.0014							
			1525	1.63	.45	.0030							
			1531	1.10	.56	.0054							
			1537	2.10	.87	.0071							
			1540	4.00	1.07	.0092							
			1545	1.56	1.20	.0141							
			1548	.80	1.24	.0276							
			1600	.30	1.30	.0464							
			1700	.02	1.32	.0521							
			1940	.01	1.34	.0647							
			RG	R-1	1.08	.1229							
			2 RG	AVG 2/	1.18	.1285							
			1804	25.0592	.1350								
			1816	19.7736	.1400								
1824	16.6851	.1427											
1908	10.5531	.1538											
1940	8.2300	.1593											
7-11													
											1952	7.7348	.1611
											2048	6.0149	.1682
											2140	5.0605	.1735
											2300	4.3671	.1805
											2400	3.8359	.1851
											0140	3.4307	.1918
											0400	3.0165	.2002
											0600	2.7373	.2065
											0636	2.7463	.2084
0800	3.1695	.2130											
0840	3.1515	.2153											
1100	2.7373	.2229											
1300	2.4582	.2287											
1840	2/ 1.9449	.2426											

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0011106. FOR 30-DAY ANTECEDENT P AND Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ CONTINUOUS FLOW PRIOR TO 1516. 2/ THIESSEN WEIGHTED FOR RG R-1 AND R-2. 3/ NORMAL BASE FLOW.

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0011106. FOR 30-DAY ANTECEDENT P AND Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ CONTINUOUS FLOW PRIOR TO 1516. 2/ THIESSEN WEIGHTED FOR RG R-1 AND R-2. 3/ NORMAL BASE FLOW.





BLACKSBURG, VIRGINIA BRUSH CREEK W-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA POWELLS CREEK W-I AREA—182 ACRES								13.09
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965	1.67	2.79	5.12	2.66	2.19	3.72	8.09	1.88	2.41	2.52	.82	.44	34.31	
PL/ Q	1.01	1.57	2.71	.65	.33	.34	2.47	.16	.19	.36	.19	.22	10.20	
STA AVG 2 P (58-65)	2.99	3.31	3.89	3.30	3.48	2.71	4.61	4.45	2.49	3.20	2.72	2.92	40.07	
MEAN P 3/ 75 YR	1.92	2.00	2.40	1.54	.92	.36	.62	.61	.30	.78	.74	1.26	13.45	
	3.49	3.38	3.78	3.41	3.84	3.77	4.54	4.39	3.45	2.78	2.64	3.23	42.70	

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-11	2.29	7-11	1.61	7-11	1.92	7-11	2.07	7-11	2.10	7-11	2.17	7-11	2.20	7-5	2.27

## MAXIMUMS FOR PERIOD OF RECORD

19 58 TO 19 65	7-11 1965	2 29	7-11 1965	1.61	7-11 1965	1.92	7-11 1965	2.07	7-11 1965	2.10	7-11 1965	2.17	12-28 1958	2.25	3-5 1963	3.41
-------------------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	---------------	------	-------------	------

NOTES: Watershed conditions: Farm woods, predominantly hardwood, 16%; pasture, native grass mixture, usually good to excellent cover, 60%; row crop, corn, 6%; small grain, 11%; alfalfa and other hay crops, 1%; total cultivated, 18%; idle land, 4%; roads, 2%. 1/ Precipitation Thiessen weighted from R-1 and R-2. 2/ Determined from continuous records from January, 1958 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Danville Bridge St., Virginia. Missing monthly totals for July and Aug. 1946 were estimated from nearby Weather Bureau records at Danville, Va., (Airport)

1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA POWELLS CREEK W-I 13.09						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.00	.02E	.02	.00	.00	.00	.00	.59	.15	.67	.00	.00
2	.00	.00	.33	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	1.42	.00	.00	.00	.25	.45	.00	.00	.00	.00
5	.00	.00	.02	.00	.00	.00	.65	.00	.00	.00	.00	.00
6	.00	.00	.01	.16	.00	.00	.01	.00	.00	.00	.00	.00
7	.00	1.24	.00	.04	.28	.00	.29	.26	.00	1.75	.00	.00
8	.00	.00	.00	.03	.00	.17	.00	.01	.00	.10	.00	.00
9	.15	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00
10	.31	.09	.00	.01	.04	.00	.19	.00	.00	.00	.37E	.00
11	.00	.33E	.00	.00	.37	.20	4.78	.00	.38	.00	.04	.00
12	.00	.02	.00	.00	.04	.49	.13	.00	.16	.00	.03	.00
13	.00	.00	.00	.00	.01	.00	.00	.00	.06	.00	.15	.31
14	.00	.49S	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
15	.00	.06	.00	.52E	.00	1.04	.00	.00	.00	.00	.00	.00
16	.48S	.00	.02	.00	.00	.68	.00	.00	.00	.00	.00	.00
17	.03S	.00	1.66	.00	.00	.00	.06	.25	.00	.00	.00	.00
18	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00
19	.00	.00	.00	.11E	.00	.00	.00	.06	.00	.00	.00	.00
20	.00	.00	.34	.10E	.00	.00	.00	.00	.53	.00	.00	.00
21	.00	.03	.00	.00	.00	.00	.00	.09	.00	.00	.12	.00
22	.00	.02	.00	.00	.00	.00	.00	.03	.00	.00	.10	.00
23	.10	.00	.17	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.35	.14	.00	.00	.00	.69	.00	.00	1.12	.00	.00	.00
25	.00	.35	.50E	.00	.06	.00	.19	.14	.00	.00	.00	.13
26	.00	.00	.50	.20	.00	.00	.15	.00	.00	.00	.00	.00
27	.00	.00	.00	1.28	.64	.02	1.35	.00	.00	.00	.00	.00
28	.00	.00	.00	.09E	.62	.00	.04	.00	.00	.00	.00	.00
29	.00		.05	.00	.13	.00	.00	.00	.00	.00	.00	.00
30	.25S	-----	.00	.00	.00	.43	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00
TOTAL	1.67	2.79	5.12	2.66	2.19	3.72	8.09	1.88	2.41	2.52	.82	.44
STA AV	2.99	3.31	3.89	3.30	3.48	2.71	4.61	4.45	2.49	3.20	2.72	2.92

NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1 AND R-2. STA AV IS FOR PERIOD JANUARY, 1958 THROUGH 1965. FOR TOPOGRAPHIC (REVISED DRAINAGE PATTERN) MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 13.9-5.

1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA		POWELLS CREEK W-I		13.09		
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.18	.17	.18	.19	.12	.06	.07	.13	.04	.21	.04	.04
2	.17	.17	.27	.19	.10	.06	.06	.04	.04	.06	.04	.04
3	.15	.16	.28	.18	.10	.06	.06	.02	.04	.05	.04	.04
4	.13	.16	5.14	.16	.10	.06	.07	.08	.04	.04	.04	.04
5	.13	.18	.76	.16	.10	.06	.18	.03	.04	.04	.04	.04
6	.13	.17	.32	.20	.09	.05	.09	.02	.04	.04	.04	.04
7	.13	3.91	.25	.17	.12	.05	.08	.03	.04	1.12	.04	.04
8	.13	.58	.21	.15	.10	.06	.08	.02	.04	.10	.04	.04
9	.13	.31	.19	.17	.10	.05	.06	.02	.04	.07	.04	.04
10	.39	.33	.16	.13	.10	.05	.07	.02	.04	.05	.06	.04
11	.18	.92	.16	.13	.13	.06	15.52	.02	.05	.05	.07	.05
12	.15	.37	.17	.12	.09	.11	1.26	.02	.05	.05	.05	.05
13	.14	.44	.17	.10	.07	.07	.09	.01	.05	.04	.07	.10
14	.13	.71	.15	.10	.06	.06	.05	.01	.04	.04	.05	.06
15	.12	.43	.13	.18	.06	.21	.04	.01	.04	.04	.05	.05
16	.17	.27	.13	.14	.06	.41	.04	.01	.04	.04	.05	.05
17	.16	.25	4.14	.10	.06	.10	.03	.02	.04	.04	.05	.05
18	.15	.27	.67	.10	.06	.10	.03	.01	.04	.04	.04	.05
19	.14	.22	.27	.11	.06	.09	.02	.04	.04	.04	.04	.05
20	.14	.19	.68	.10	.05	.08	.02	.06	.06	.04	.04	.05
21	.18	.19	.30	.10	.06	.07	.02	.05	.05	.04	.05	.05
22	.54	.18	.23	.10	.06	.06	.02	.06	.04	.04	.06	.05
23	.75	.17	.31	.10	.06	.06	.02	.05	.04	.04	.05	.05
24	1.34	.18	.28	.10	.06	.11	.02	.05	.24	.04	.04	.05
25	.48	.60	1.40	.10	.06	.08	.02	.06	.06	.04	.04	.07
26	.27	.17	2.37	.12	.05	.06	.02	.05	.04	.04	.04	.05
27	.21	.15	.40	.87	.11	.06	.72	.04	.04	.04	.04	.05
28	.18	.17	.28	.31	.14	.06	.05	.04	.04	.04	.04	.05
29	.18		.28	.16	.10	.06	.03	.04	.04	.04	.04	.05
30	.25		.25	.13	.06	.08	.02	.04	.04	.04	.04	.05
31	.17		.21		.06		.02	.04		.04		.05
MEAN	.25	.43	.67	.16	.08	.09	.61	.04	.05	.09	.05	.05
INCHES	1.01	1.57	2.71	.65	.33	.34	2.47	.16	.19	.36	.19	.22

NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.130779.

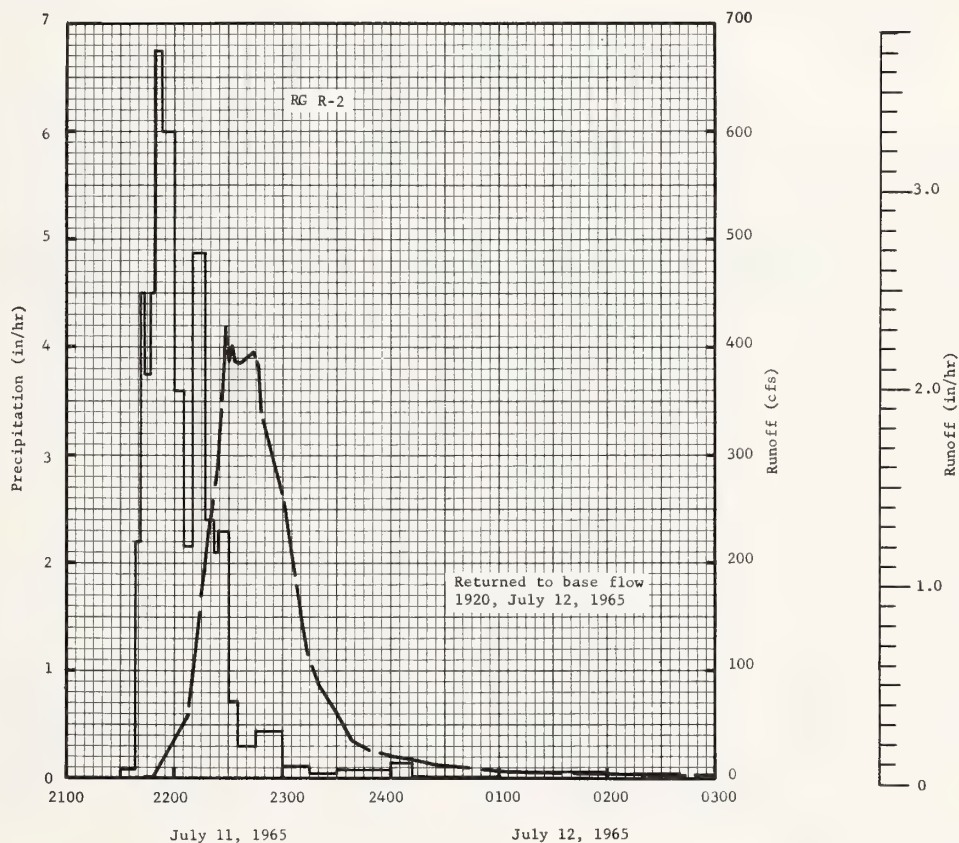
1965 SELECTED RUNOFF EVENT						BLACKSBURG, VIRGINIA		POWELLS CREEK W-I		13.09	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of July 11 and 12, 1965											
7-11	RG R-1 1/1.12	2/.0789	7-11	RG 2130	R-2 .00	.00	7-11	2144	.1633	.0000	
				2138	.08	.01		2148	.4239	.0001	
	RG R-2			2141	2.20	.12		2207	59.5656	.0519	
7-11	3/1.19			2143	4.50	.27		2210	97.1111	.0732	
				2147	3.75	.52		2216	190.6950	.1517	
Watershed conditions: Pasture, good cover of native grass mixture, 4 to 18 in. tall, 10%; fair cover of native grass mixture 3 to 6 in. tall, 50%; total pasture, 60%; Woods, mixture of hardwoods and conifers, good cover, 16%; small grain stubble, fair cover, 11%; corn, 6 to 8 ft. tall, fair cover, 6%; idle, good cover of weeds and grass 6 in. to 2 ft. tall, 4%; hay, orchardgrass and alfalfa, 6 to 8 in. tall, good cover, 1%; paved roads, 2%.				2149	4.50	.67		2218	232.1622	.1900	
				2153	6.75	1.12		2224	290.7001	.3325	
				2200	6.00	1.82		2226	351.9045	.3908	
				2205	3.60	2.12		2228	419.9870	.4609	
				2210	2.16	2.30		2230	387.9800	.5344	
				2217	4.88	2.87		2232	401.6758	.6061	
				2222	2.40	3.07		2234	387.6442	.6778	
				2224	2.10	3.14		2236	384.8052	.7479	
				2230	2.30	3.37		2238	388.9471	.8181	
				2235	.72	3.43		2240	390.7749	.8889	
				2245	.30	3.48		2244	394.7939	1.0316	
				2300	.44	3.59		2246	383.5169	1.1024	
				2315	.12	3.62		2248	340.2237	1.1681	
				2330	.04	3.63		2300	263.7049	1.4972	
				2400	.08	3.67		2308	174.6355	1.6564	
			7-12	0012	.15	3.70		2310	155.1920	1.6864	
				0100	.02	3.72		2314	115.1800	1.7355	
				0200	.05	3.77		2318	97.1808	1.7741	
				0240	.04	3.80		2320	88.9593	1.7910	
								2330	62.1091	1.8596	
				RG	R-1	3.70		2338	35.8975	1.8952	
				2 RG	AVG4/	3.74		2348	27.7384	1.9241	
								2400	21.3612	1.9508	
								0012	18.2103	1.9724	
								0024	12.1451	1.9889	

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0054491. FOR 30-DAY ANTECEDENT P AND Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ 1.12 IN. FROM 0305 TO 1200. 2/ CONTINUOUS FLOW PRIOR TO 2144. 3/ 1.19 IN. FROM 0305 TO 1200. 4/ THIESSEN WEIGHTED FOR RG R-1 AND R-2.



1965 <b>SELECTED RUNOFF EVENT</b>			BLACKSBURG, VIRGINIA      POWELLS CREEK W-I				13.09			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of July 11 and 12, 1965 - Continued										
							7-12	0100	6.8745	2.0200
								0144	4.0741	2.0419
								0228	3.1198	2.0563
								0256	2.7546	2.0637
								0316	2.4536	2.0685
								0424	1.4112	2.0804
								0624	.7065	2.0919
								0932	.3799	2.1012
								1140	.2789	2.1050
								1440	.1945	2.1089
								1620	.1707	2.1105
								1920	<u>1</u> /.1266	2.1130

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0054491. 1/ NORMAL BASE FLOW.



BLACKSBURG, VIRGINIA      POWELLS CREEK W-I

MONTHLY PRECIPITATION AND RUNOFF (inches)							BLACKSBURG, VIRGINIA LITTLE WINNS CREEK W-I 13.10 AREA—1471 ACRES (2.30 SQ. MILES)									
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	2.47 .71	3.17 1.18	4.86 1.69	2.71 .82	3.74 .97	3.66 .41	6.54 .95	4.01 .63	1.95 .32	2.36 .43	.61 .32	.23 .31	36.31 8.74			
STA AVG <sub>26</sub> (58-65) <sub>Q</sub>	3.15 1.12	3.48 1.31	3.82 1.52	3.38 1.20	3.40 .99	3.23 .67	3.78 .52	4.87 .66	2.74 .42	3.23 .78	2.68 .61	2.85 .89	40.61 10.69			
MEAN P <sub>3</sub> / 35 YR	3.34	3.25	3.93	3.61	3.68	4.10	4.61	4.17	3.70	2.77	3.10	3.13	43.39			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-27	.18	7-27	.13	7-27	.20	7-27	.26	3-17	.32	3-17	.39	3-17	.45	2-7	.69
MAXIMUMS FOR PERIOD OF RECORD																
1958 TO 1965	10-10 1959	1.12	10-10 1959	.71	10-10 1959	1.03	10-10 1959	1.41	10-10 1959	1.51	10-10 1959	1.58	10-10 1959	1.62	10-10 1959	1.91
NOTES: Watershed conditions: Farm woods, mixture of hardwoods and conifers, with pine predominating, 58%; row crops, mostly corn and tobacco, 10%; small grain, 2%; alfalfa and other hay crops, 5%; other cultivated areas, 1%; total cultivated, 18%; pasture, native grass mixture, usually fair cover, 9%; idle land, 15%; conditions are consistent from year to year. 1/ Precipitation Thiessen weighted R-1, R-2 and R-3. 2/ Determined from continuous records from January, 1958 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 35-yr (1931-1965) U.S. Weather Bureau record period at Halifax (1 mile N), Virginia.																
1965 DAILY PRECIPITATION (inches)							BLACKSBURG, VIRGINIA LITTLE WINNS CREEK W-I 13.10									
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.00	.02	.00	.00	.00	.00	1.32	.05	.44	.00	.00				
2	.00	.03	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00				
3	.00	.00	.48	.00	.00	.00	.00	.00	.00	.00	.00	.00				
4	.00	.00	.77E	.00	.00	.00	.20	.51	.00	.00	.00	.00				
5	.00	.00	T	.00	.00	.00	.39	.00	.00	.00	.00	.00				
6	.00	T	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00				
7	.00	1.42	.30	.02	1.98	.00	.21	.28	.00	1.84	.00	.00				
8	.00	.00	.00	.00	.00	.07	.00	.19	.00	.08	.00	.00				
9	.27	.00	.00	.09	.00	.00	.00	.00	.00	.00	.00	.00				
10	.31	.09N	.00	.00	.24E	.00	.28	.00	.00	.00	.29	.00				
11	.00	.44N	.00	.00	.62	.21	2.24	.00	.37	.00	.03	.00				
12	.00	T	.00	.00	.00	.41	.23	.00	.03	.00	.01	.00				
13	.00	.00	.00	.00	.00	.00	.00	.00	.27	.00	.13	.11				
14	.00	.61N	.00	.00	.00	.00	.00	.00	T	.00	.00	.00				
15	.00	.00	.00	.38	.00	1.13	T	.00	.00	.00	.00	.00				
16	.89E	.00	T	.00	.00	.78	.00	.00	.00	.00	.00	.00				
17	.07E	.00	1.79	.00	.00	.00	.04	.60	.03	.00	.00	.00				
18	T	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
19	.00	.00	.00	.09	.00	.00	.25	.43	.00	.00	.00	.00				
20	.00	.00	.38	.09	.00	.00	.00	.08	.04	.00	.00	.00				
21	.00	.04	.00	.00	.00	.00	.00	.04	.00	.00	.09	.00				
22	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.06	.00				
23	.04E	.00	.20	.01	.00	.00	.00	.00	.00	.00	.00	.00				
24	.46E	.03	.00	.00	.00	.18	.00	.00	1.15	.00	.00	.00				
25	.00	.28	.44	.00	.00	.00	.15	.50	.01	.00	.00	.12				
26	.00	.23	.39	.12	.00	.00	.27	.00	.00	.00	.00	.00				
27	.00	.00	.00	1.66	.39	.01	2.24	.00	.00	.00	.00	.00				
28	.00	.00	.00	.17	.45	.00	.04	.00	.00	.00	.00	.00				
29	.00	.10	.00	.00	.06	.63	.00	.00	.00	.00	.00	.00				
30	.43S	-----	.00	.00	.00	.24	.00	.00	.00	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.05	-----	.00	-----	.00				
TOTAL	2.47	3.17	4.86	2.71	3.74	3.66	6.54	4.01	1.95	2.36	.61	.23				
STA AV	3.15	3.48	3.82	3.38	3.40	3.23	3.78	4.87	2.74	3.23	2.68	2.85				
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1, R-2 AND R-3. STA AV IS FOR PERIOD JANUARY 1958 THROUGH 1965. FOR DRAINAGE PATTERN MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61 USDA MISC. PUB. 994, P. 13.10-8.																

1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA LITTLE WINNS CREEK W-I						13.10
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	1.26	1.16	1.25	1.59	1.58	.83	.74	9.73	.67	.91	.66	.65
2	1.18	1.15	1.41	1.54	1.41	.80	.66	2.13	.68	.68	.65	.65
3	1.05	1.04	1.44	1.41	1.27	.78	.65	1.13	.66	.60	.65	.65
4	1.02	1.05	12.68	1.41	1.19	.77	.71	2.62	.66	.60	.65	.65
5	1.02	1.03	7.87	1.37	1.13	.74	1.00	1.26	.65	.60	.65	.65
6	.99	1.04	2.91	1.38	1.13	.71	.74	.89	.64	.58	.65	.65
7	.95	17.56	2.11	1.34	15.99	.70	.74	1.26	.64	5.07	.65	.65
8	.95	5.97	1.82	1.33	3.08	.74	.74	1.21	.62	1.03	.65	.65
9	.97	2.69	1.62	1.35	2.02	.74	.65	.93	.62	.77	.65	.65
10	1.28	2.11	1.48	1.25	1.98	.68	.77	.76	.62	.71	.68	.65
11	1.04	7.34	1.41	1.25	5.64	.68	6.91	.69	.71	.71	.74	.65
12	.97	3.13	1.33	1.25	3.03	1.09	10.36	.67	.70	.75	.71	.63
13	.95	2.13	1.25	1.23	1.80	.77	1.35	.64	.79	.73	.73	.70
14	.92	1.93	1.25	1.17	1.46	.63	1.03	.60	.62	.72	.65	.63
15	.89	1.87	1.19	1.34	1.33	1.37	.97	.60	.60	.71	.65	.60
16	.84	2.07	1.18	1.34	1.20	2.41	.90	.60	.58	.69	.65	.60
17	1.23	2.51	18.93	1.17	1.19	1.06	.85	1.99	.58	.69	.63	.60
18	.95	2.15	8.09	1.14	1.17	.91	.78	.61	.57	.71	.60	.60
19	.89	1.72	2.91	1.20	1.10	.78	.87	.79	.56	.71	.60	.60
20	.96	1.51	3.57	1.23	1.03	.71	.80	.84	.55	.71	.63	.60
21	1.02	1.45	2.49	1.18	1.00	.75	.74	.80	.56	.71	.68	.60
22	1.56	1.36	2.05	1.17	.96	.74	.73	.84	.55	.71	.73	.60
23	2.84	1.25	2.04	1.17	.91	.74	.69	.78	.54	.71	.68	.60
24	5.59	1.28	1.85	1.13	.91	.77	.68	.79	1.83	.71	.65	.60
25	3.66	2.11	2.83	1.09	.90	.77	.72	1.47	.70	.71	.65	.64
26	2.16	1.45	6.57	1.23	.85	.70	.75	.96	.60	.71	.65	.60
27	1.63	1.33	3.00	7.89	1.03	.71	17.59	.75	.62	.71	.65	.60
28	1.42	1.28	2.24	5.27	1.07	.71	1.83	.69	.62	.71	.65	.60
29	1.30		2.05	2.53	1.17	1.04	1.09	.66	.62	.71	.65	.60
30	1.34		1.86	1.84	.84	.80	.93	.67	.60	.71	.65	.60
31	1.16		1.69		.86		.80	.64		.71		.60
MEAN	1.42	2.60	3.37	1.69	1.94	.85	1.90	1.26	.67	.85	.66	.63
INCHES	.71	1.18	1.69	.82	.97	.41	.95	.63	.32	.43	.32	.31

NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.016181.

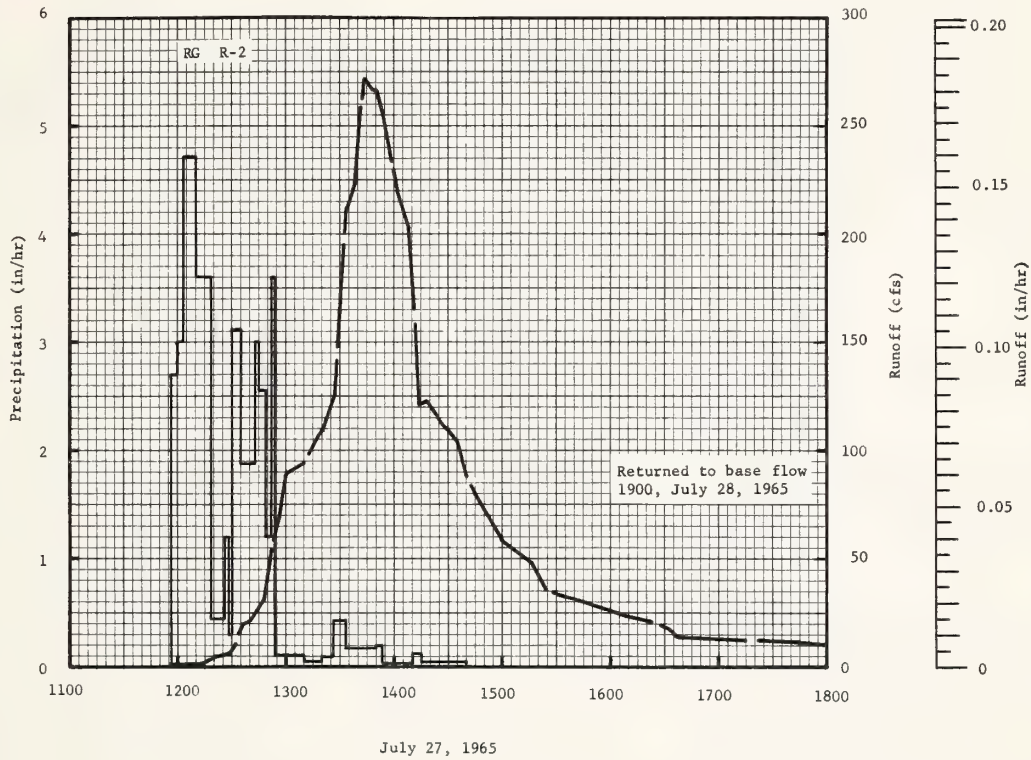
1965 SELECTED RUNOFF EVENT			BLACKSBURG, VIRGINIA				LITTLE WINNS CREEK W-1 13.10			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of July 27 and 28, 1965							
7-27	RG'S R-1 AND R-2 .00	1/.0070	7-27	RG 1156	RG-2 .00	.00	7-27	1156	1.0086	.0000
				1200	2.70	.18		1200	1.2904	.0001
				1203	3.00	.33		1204	1.4536	.0001
7-27	RG R-3 2/ .01			1210	4.72	.88		1208	1.6909	.0002
				1218	3.60	1.36		1213	2.1952	.0003
				1226	.45	1.42		1220	4.9837	.0006
				1228	1.20	1.46		1224	5.5919	.0008
				1230	.30	1.47		1228	6.1703	.0011
				1235	3.12	1.73		1232	10.3531	.0014
				1243	1.88	1.98		1234	15.2478	.0017
Watershed conditions:										
Woods, mixture of hardwoods and				1245	3.00	2.08		1236	19.1933	.0021
conifers, good cover, 58%; pas-				1249	2.55	2.25		1240	20.9732	.0030
ture, good cover of native				1252	1.20	2.31		1248	31.5636	.0054
grasses 3 to 8 in. tall, 9% idle,				1254	3.60	2.43		1250	41.8871	.0062
good cover of weeds, vines, broom				1310	.11	2.46		1252	54.6727	.0073
sedge and other grasses, 4 to 18										
in tall, 15%; corn, 5 to 8 ft				1320	.06	2.47		1256	68.5559	.0101
tall, poor to fair cover, 6%;				1326	.10	2.48		1300	88.8913	.0136
tobacco, 2 to 4 ft. tall, poor to				1333	.43	2.53		1310	94.3052	.0239
fair cover, 4%; hay, mostly				1350	.18	2.58		1318	107.4023	.0330
orchardgrass and clover, good				1353	.20	2.59		1320	108.6334	.0354
cover, 5%; small grain stubble,										
fair cover, 2%; other cultivated,				1410	.04	2.60		1327	125.3942	.0446
poor to fair cover, 1%.				1415	.12	2.61		1330	164.7004	.0495
				1440	.04	2.63		1332	195.0032	.0535
								1334	211.7936	.0581
								1338	223.2443	.079
			7-27	RG 1153	RG-3 .00	.00		1342	258.9166	.0787
				1156	.60	.03		1344	271.8950	.0846
				1200	4.05	.30		1348	266.4367	.0968
				1206	3.20	.62		1350	266.8965	.1027
				1216	1.56	.88		1354	256.5137	.1145

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0006742. FOR 30-DAY ANTECEDENT P AND Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ CONTINUOUS FLOW PRIOR TO 1156. 2/ .01 IN. FROM 0940 TO 1040.



1965 <b>SELECTED RUNOFF EVENT</b>			BLACKSBURG, VIRGINIA				LITTLE WINNS CREEK W-I      13.10			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of July 27 and 28, 1965 - Continued										
				RG	R-3					
			7-27	1222	.30	.91	7-27	1402	219.4621	.1359
				1225	3.00	1.06		1408	202.4788	.1501
				1235	1.56	1.32		1412	158.7080	.1582
				1243	.83	1.43		1414	120.9741	.1614
				1245	2.40	1.51		1418	122.7243	.1669
				1247	.30	1.52		1422	118.0669	.1723
				1252	1.32	1.63		1426	112.1191	.1774
				1307	.12	1.66		1430	109.4640	.1824
				1311	.30	1.68		1435	104.8363	.1884
				1318	.00	1.68		1440	89.7219	.1939
				1321	.20	1.69		1444	81.4751	.1977
				1325	.00	1.69		1452	69.9502	.2046
				1331	.50	1.74		1500	58.0842	.2103
				1342	.16	1.77		1516	45.5507	.2196
				1428	.00	1.77		1524	36.1320	.2233
				1440	.10	1.79		1532	33.2545	.2264
				1450	.18	1.82		1548	29.1904	.2320
				RG	R-1	2.25		1554	26.9507	.2339
				3 RG	AVG1/	2.20		1608	23.4651	.2379
								1622	20.6172	.2414
								1632	17.6507	.2435
								1636	13.7201	.2442
								1744	10.8129	.2536
								1828	8.4545	.2583
								1916	6.9565	.2625
								2020	5.6512	.2670
								2200	4.1531	.2726
								2400	3.3670	.2776
							7-28	0120	2.9517	.2805
								0520	2.2100	.2874
								0720	2.0914	.2903
								0920	1.8689	.2930
								1100	1.7799	.2950
								1340	1.5871	.2981
								1600	1.4091	.3004
								1900	2/1.2459	.3031

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0006742. 1/ THIESSEN WEIGHTED FOR RG R-1, R-2 & R-3. 2/ NORMAL BASE FLOW.



BLACKSBURG, VIRGINIA LITTLE WINNS CREEK W-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA    ROCKY RUN BRANCH W-I    13.11 AREA—555 ACRES										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965	1.94 .63	2.14 .71	3.91 1.25	1.82 .78	.61 .36	6.16 .66	2.96 .23	2.82 .19	2.94 .23	1.62 .15	.73 .12	.24 .13	27.89 5.44			
STA AVG <sup>2</sup> (58-65)	2.98 1.06	3.40 1.38	3.47 1.53	2.68 1.09	3.37 1.04	4.36 .79	4.43 .56	3.70 .39	3.11 .35	2.85 .43	2.64 .59	2.78 .81	39.77 10.02			
MEAN 35 YR	3.17	3.29	3.48	3.33	3.90	4.23	5.86	5.08	3.95	2.40	2.81	3.06	44.56			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-25	.03	3-4	.02	3-4	.04	3-4	.11	3-4	.15	3-4	.19	6-15	.30	6-15	.42
MAXIMUMS FOR PERIOD OF RECORD																
1958 TO 1965	6-7 1961	.22	6-7 1961	.19	5-8 1958	.34	5-6 1958	.71	5-6 1958	.98	5-6 1958	1.45	5-5 1958	2.09	4-30 1958	2.86
NOTES: Watershed conditions: Mixed cover; farm woods, mixture of hardwoods and conifers, 56%; permanent pasture, usually a good cover of native grass and clover mixture, 14%; alfalfa and other hay crops, 1%; corn, 1%; small grain, 7%; other cultivated areas, 1%; total cultivated, 10%. Idle land, usually a good cover of tall weeds, vines and short growing plants, 18%; roads, 2%. 1/ Precipitation Thiessen weighted from R-1 and R-2. 2/ Determined from continuous records from April, 1958 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 35-yr (1931-65) U.S. Weather Bureau record period at Emporia (1 mile WNW), Virginia.																
1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA    ROCKY RUN BRANCH W-I    13.11										
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.00	.00	.00	.00	.00	.00	.03	.26	.27	.00	.00				
2	.00	.00	.35	.00	.00	.00	.00	.00	.00	T	.00	.00				
3	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00				
4	.00	.00	1.04	.00	.00	.00	.51	.00	.00	.00	.00	.00				
5	.00	.00	.00	.00	.00	.00	.37	.00	.00	.00	.00	.00				
6	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00	.00	.00				
7	.01	.88	.00	.00	.00	.00	.02	.00	.00	1.23	.00	.00				
8	.03	.00	.00	.07	.00	1.38	.00	.08	.00	.09	.00	.00				
9	T	.00	.00	.15	.00	.15	.00	.00	.02	T	.00	.00				
10	.29	.03	.00	.00	.00	.00	.12	.00	.00	.00	.12	.00				
11	.00	.08	.00	.05	.00	.30	.28	.00	1.01	.00	.14	.00				
12	.00	.01	.00	.00	.12	.33	.04	.00	.05	.00	T	.00				
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.22	.02				
14	.00	.56M	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00				
15	.115	.16	.00	.08	.00	2.52	.04	.02	.00	.00	.00	.00				
16	.505	.00	.00	.01	.00	.82	.00	.00	.00	.00	.00	.00				
17	.055	.00	1.10	.00	.00	.00	.00	.00	.55	.00	.00	.00				
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
19	.00	.00	.00	.11	.00	.00	.27	.51	.00	.00	.00	.00				
20	.00	.00	.33	.18	.00	.00	.00	.00	.00	.00	.02	.00				
21	.00	.00	.00	.00	.00	.00	.00	.00	T	.00	.01	.00				
22	.00	.01	.00	.00	.00	.00	.00	.00	.00	.03	.22	.00				
23	.01	.00	.19	.04	.30	.00	.51	.12	.00	.00	.00	.00				
24	.51	.03	.00	.00	.00	.18	.01	.00	1.05	.00	.00	.00				
25	.00	.38	.46	T	.00	T	.00	1.94	.00	.00	.00	.22				
26	.00	.00	.39	.13	.00	.00	.46	.10	.00	.00	.00	.00				
27	.00	.00	.00	.78	.19	.00	.14	.00	.00	.00	.00	.00				
28	.00	.00	.00	.00	.00	.00	.11	.02	.00	.00	.00	.00				
29	.00	---	.05	.02	.00	.40	.00	.00	.00	.00	.00	.00				
30	.435	---	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00				
31	.00	---	.00	---	.00	---	.00	.00	---	.00	---	.00				
TOTAL	1.94	2.14	3.91	1.82	.61	6.16	2.96	2.82	2.94	1.62	.73	.24				
STA AV	2.98	3.40	3.47	2.68	3.37	4.36	4.43	3.70	3.11	2.85	2.64	2.78				
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1 AND R-2. STA AV IS FOR PERIOD APRIL 1958 THROUGH 1965. FOR TOPOGRAPHIC (REVISED DRAINAGE PATTERN) MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 13.11-6.																



1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA ROCKY RUN BRANCH W-I						13.11
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.50	.47	.50	.70	.42	.16	.22	.16	.11	.18	.08	.09
2	.50	.46	.66	.65	.42	.15	.16	.15	.12	.17	.08	.09
3	.44	.46	.50	.57	.40	.15	.16	.13	.11	.16	.08	.09
4	.41	.46	2.07	.55	.38	.15	.23	.12	.11	.15	.08	.09
5	.42	.44	3.22	.55	.36	.14	.25	.14	.10	.15	.08	.09
6	.42	.44	1.00	.65	.34	.14	.20	.13	.09	.15	.08	.09
7	.40	1.60	.62	.63	.34	.13	.18	.08	.08	.62	.08	.09
8	.38	1.64	.52	.58	.34	.78	.17	.07	.08	.09	.08	.09
9	.40	.99	.48	.65	.34	.28	.16	.06	.08	.08	.08	.09
10	.44	.79	.46	.55	.32	.21	.16	.06	.08	.08	.09	.09
11	.41	.53	.46	.55	.31	.19	.21	.05	.46	.08	.10	.09
12	.38	.31	.46	.55	.32	.27	.20	.05	.24	.08	.09	.09
13	.38	.31	.46	.52	.31	.23	.18	.05	.18	.08	.11	.09
14	.37	.40	.46	.50	.26	.18	.16	.07	.15	.08	.09	.09
15	.35	.50	.46	.48	.25	2.73	.14	.07	.11	.08	.09	.09
16	.38	.50	.46	.46	.25	4.07	.13	.07	.07	.08	.09	.09
17	.40	.50	1.32	.53	.23	.84	.14	.07	.56	.08	.09	.09
18	.38	.50	1.54	.63	.22	.54	.12	.07	.21	.08	.09	.09
19	.38	.50	.88	.63	.22	.46	.14	.10	.18	.08	.09	.09
20	.36	.50	1.00	.70	.22	.38	.15	.08	.16	.08	.09	.09
21	.38	.50	.83	.70	.22	.36	.13	.08	.16	.08	.09	.09
22	.48	.50	.68	.68	.20	.35	.13	.08	.15	.08	.10	.09
23	.57	.50	.74	.63	.19	.34	.22	.09	.14	.08	.09	.09
24	1.11	.50	.73	.60	.19	.35	.15	.10	.56	.08	.09	.09
25	.78	.81	1.12	.63	.19	.34	.13	1.31	.21	.08	.09	.12
26	.66	.52	2.73	.68	.19	.34	.23	.31	.17	.08	.09	.12
27	.57	.50	1.37	1.01	.20	.34	.18	.13	.15	.08	.09	.10
28	.50	.50	1.02	.68	.19	.31	.17	.15	.16	.08	.09	.09
29	.48		.95	.52	.18	.30	.17	.14	.15	.08	.09	.09
30	.49		.85	.46	.17	.28	.16	.12	.15	.08	.09	.09
31	.50		.73		.16		.16	.10		.08		.09
MEAN	.47	.59	.94	.61	.27	.52	.17	.14	.18	.11	.09	.10
INCHES	.63	.71	1.25	.78	.36	.66	.23	.19	.23	.15	.12	.13

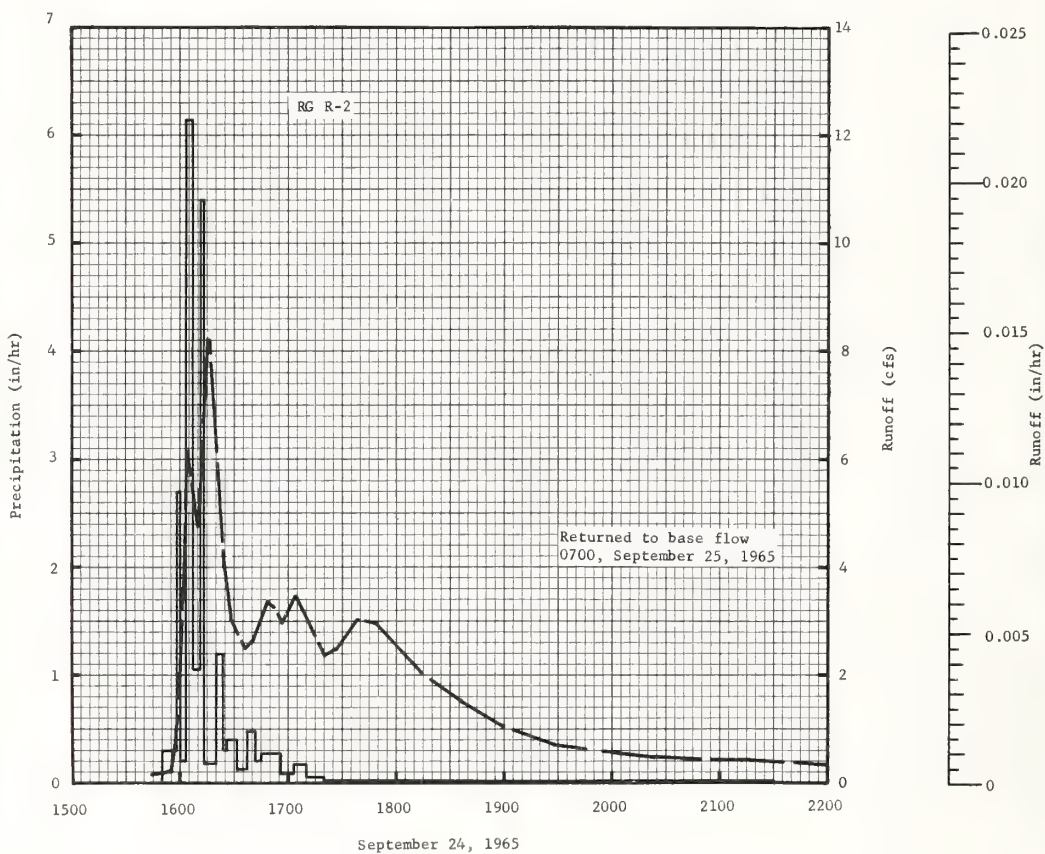
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.042886

1965			SELECTED RUNOFF EVENT				BLACKSBURG, VIRGINIA		ROCKY RUN BRANCH W-I		13.11	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
	RG'S R-1 AND R-2		Event of September 24 and 25, 1965									
9-24	.00	1/.0044	9-24	RG	R-2		9-24					
				1550	.00	.00		1544	.1679	.0000		
				1558	.30	.04		1550	.1903	.0001 T		
				1600	2.70	.13		1555	.2239	.0001		
				1603	.20	.14		1557	.6998	.0001		
				1607	6.15	.55		1600	2.0265	.0002		
<u>Watershed conditions</u>				1611	1.05	.62		1602	3.8347	.0004		
Woods, predominantly hardwoods,				1613	5.40	.80		1604	6.1580	.0007		
some conifers, good cover, 56%;				1620	.17	.82		1606	5.6933	.0010		
idle, good cover of weeds, vines				1624	1.20	.90		1610	4.7528	.0016		
and grass, 1 to 3 ft. tall, 18%;				1626	.30	.91		1616	8.2013	.0028		
pasture, fair to good cover of				1632	.40	.95		1624	4.0587	.0043		
native grass mixtures, 3 to 6 in.				1637	.12	.96		1628	3.0398	.0047		
tall, 14%; small grain stubble,				1642	.48	1.00		1636	2.4856	.0053		
fair cover, 7%; corn, 7 to 9 ft.				1645	.20	1.01		1640	2.6255	.0056		
tall, fair cover, 1%; hay,				1656	.27	1.06		1648	3.3645	.0064		
orchardgrass and clover, good				1703	.09	1.07		1652	3.2301	.0067		
cover, 1%; other cultivated, 1%;				1710	.17	1.09		1656	2.9838	.0071		
paved roads, 2%.				1720	.06	1.10		1704	3.4653	.0079		
				1900	.01	1.12		1720	2.3904	.0093		
				2130	.01	1.14		1726	2.4800	.0097		
				RG		R-1		1738	3.0342	.0107		
				2 RG		AVG 2/ 1.05		1748	2.9670	.0116		
								1814	2.0377	.0135		
								1836	1.5339	.0147		
								1900	1.0357	.0156		
								1928	.7222	.0163		
								2004	.5318	.0170		
								2024	.4870	.0173		
								2040	.4479	.0175		
								2100	.4143	.0178		

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0017869. FOR 30-DAY ANTECEDENT P AND Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ CONTINUOUS FLOW PRIOR TO 1544. 2/ THIESSEN WEIGHTED FOR RG R-1 AND R-2.

1965 SELECTED RUNOFF EVENT			BLACKSBURG, VIRGINIA				ROCKY RUN BRANCH W-I		13.11
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF		
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	ACC. (inches)
Event of September 24 and 25, 1965 - Continued									
							9-24	2116	.4143
								2216	.3303
								2300	.3023
								2352	.2743
								2400	.2743
							9-25	0056	.2743
								0200	.2463
								0700	.1903

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0017869.  $\frac{1}{1}$  NORMAL BASE FLOW.



BLACKSBURG, VIRGINIA ROCKY RUN BRANCH W-I

MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA      PONY MOUNTAIN BRANCH W-I      13.12 AREA—192 ACRES							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P1/ Q	3.14 1.46	4.50 2.69	3.59 1.68	1.76 .09	1.80 .01	1.34 .00	2.72 .01	2.79 .04	3.16 .05	2.14 .03	.69 .00	.44 .00	28.07 6.06
STA AVG 24 (58-65) Q	2.75 1.28	3.38 1.81	3.62 1.87	2.96 1.05	2.65 .22	3.29 .39	3.20 .10	3.34 .13	3.29 .16	2.17 .06	2.63 .15	2.12 .27	35.40 7.49
MEAN P3/ 59 YR	3.06	2.58	3.18	3.48	3.82	4.04	4.18	4.35	3.44	2.84	2.78	2.82	40.57

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-7	.28	2-7	.25	2-7	.44	2-7	.89	2-7	1.23	2-7	1.45	2-7	1.61	2-7	1.94

MAXIMUMS FOR PERIOD OF RECORD																
1958 TO 1965	6-24 1958	.48	6-12 1958	.28	2-7 1965	.44	2-7 1965	.89	2-7 1965	1.23	2-7 1965	1.45	2-7 1965	1.61	2-18 1961	2.76

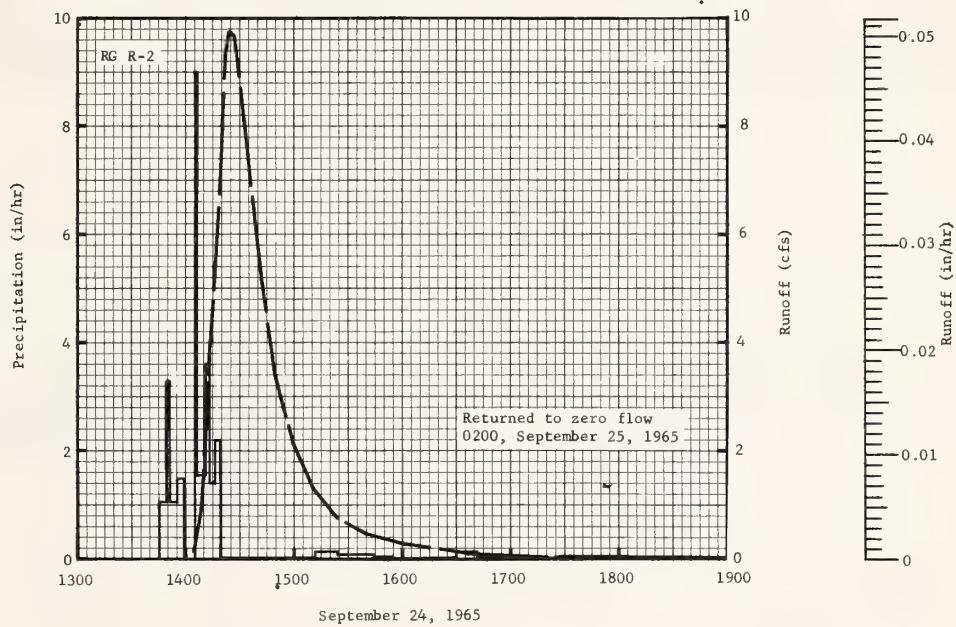
NOTES: Watershed conditions: Mixed cover, farm woods, predominantly hardwood, 53%; permanent pasture with a fair cover of native grass mixture, 45%; paved roads, 2%. 1/ Precipitation Thiessen weighted from R-1 and R-2. 2/ Determined from continuous records from May, 1958 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 59-yr (1907-65) U. S. Weather Bureau record period at Culpeper, Virginia. Monthly records missing for Jan. through July 1907, Nov. 1949, Dec. 1950, and for Jan. through Apr. and July 1951.

1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA PONY MOUNTAIN BRANCH W-I								13.12
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.255	.00	.00	.01	.00	.00	.00	.44	.00	.43	.00	.00		
2	.075	.00	.01	.00	.00	.43	.00	.14	.00	.00	.00	.00		
3	.00	.00	.02	.00	.00	.01	.31	.00	.00	.00	.00	.00		
4	.00	.00	1.41	.00	.00	.00	.00	.02	.00	.00	.00	.00		
5	.00	.00	.21	.00	.00	.00	.39	.00	.00	.00	.00	.00		
6	.00	.00	.00	.18	.03	.00	.00	.00	.01	.00	.00	.01		
7	.22	2.80	.00	.00	.62	.00	.49	.00	.00	1.57E	.00	.00		
8	.06	.01	.00	.13	.00	.00	.00	.14	.00	.00	.00	.00		
9	.37	.04	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00		
10	.89	.04	.00	.00	.00	.00	.63	.00	.00	.00	.22	.00		
11	.04	.00	.00	.12	.00	.00	.19	.00	.89	.00	T	.01		
12	.00	.03	.00	.00	.00	.03	.00	.00	.62	.00	.00	.00		
13	.00	.00	.00	.00	.00	.00	.00	.00	.19	.00	.05	.17E		
14	.00	.17	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00		
15	.01	.02	.00	.28	.00	.32	.09	.00	.00	.00	.00	.00		
16	.16	.00	.00	.00	.00	.15	.00	.00	.17	.00	.00	.00		
17	.03	.00	.88	.00	.00	.08	.00	.00	.00	.00	.00	.00		
18	.00	.00	.18	.02	.00	.00	.00	.35	.00	.00	.00	.00		
19	.00	.00	.04	.14	.00	.00	.00	.00	.00	.00	.00	.00		
20	.00	.00	.07N	.00	.00	.00	.00	.00	.00	.00	.00	T		
21	.00	.00	.00	.00	.00	.00	.00	.42	.00	.00	.19	.03S		
22	.00	.00	.00	.03	.00	.00	.00	.09	.00	.14	.20	.00		
23	.66	.00	.00	.04	.15	.00	.00	.20	.00	.00	.00	.00		
24	.21	.19	.00	.22	.01	.00	.00	.00	1.28	.00	.00	.00		
25	.00	1.20	.30	.28	.08	.00	.30	.90	.00	.00	.00	.22		
26	.00	.00	.47	.00	.00	.00	.00	.09	.00	.00	.00	.00		
27	.00	.00	.00	.24	.02	.00	.00	.00	.00	.00	.02	.00		
28	.00	.00	.00	.00	.43	.00	.29	.00	.00	.00	.00	.00		
29	.00		.00	.00	.46	.26	.03	.00	.00	.00	.00	.00		
30	.17	-----	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00		
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00		
TOTAL	3.14	4.50	3.59	1.76	1.80	1.34	2.72	2.79	3.16	2.14	.69	.44		
STA AV	2.75	3.38	3.62	2.96	2.65	3.29	3.20	3.34	3.29	2.17	2.63	2.12		

NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1 AND R-2. STA AV IS FOR PERIOD MAY, 1958 THROUGH 1965. FOR DRAINAGE PATTERN MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 13.12-7.



1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA PONY MOUNTAIN BRANCH W-I							13.12
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.04	.08	.28	.05	T	.00	.00	.00	.00	.00	.00	.00	
2	.13	.07	.25	.05	T	.00	.00	.00	.00	.00	.00	.00	
3	.05	.06	.25	.04	T	.00	.00	.00	.00	.00	.00	.00	
4	.03	.06	1.35	.03	.00	.00	.00	.00	.00	.00	.00	.00	
5	.03	.06	4.14	.02	.00	.00	.00	.00	.00	.00	.00	.00	
6	.02	.07	.84	.02	.00	.00	.00	.00	.00	.00	.00	.00	
7	.02	10.75	.41	.04	.05	.00	.00	.00	.00	.28	.00	.00	
8	.10	1.96	.28	.03	.01	.00	.00	.00	.00	T	.00	.00	
9	.36	.77	.20	.05	T	.00	.00	.00	.00	.00	.00	.00	
10	.95	.60	.14	.02	T	.00	.08	.00	.00	.00	.00	.00	
11	.58	.48	.10	.03	T	.00	.00	.00	.05	.00	.00	.00	
12	.30	.43	.09	.02	.00	.00	.00	.00	.02	.00	.00	.00	
13	.29	.30	.08	.01	.00	.00	.00	.00	.01	.00	.00	.00	
14	.17	.31	.07	T	.00	.00	.00	.00	.00	.00	.00	.00	
15	.06	.26	.06	.04	.00	.00	.00	.00	.00	.00	.00	.00	
16	.07	.26	.05	.01	.00	.00	.00	.00	.00	.00	.00	.00	
17	.59	.22	.10	.01	.00	.00	.00	.00	.00	.00	.00	.00	
18	.65	.19	.59	T	.00	.00	.00	.00	.00	.00	.00	.00	
19	.65	.18	.80	.01	.00	.00	.00	.00	.00	.00	.00	.00	
20	.37	.12	.42	.01	.00	.00	.00	.00	.00	.00	.00	.00	
21	.03	.12	.24	T	.00	.00	.00	.00	.00	.00	.00	.00	
22	.27	.12	.13	T	.00	.00	.00	.00	.00	.00	.00	.00	
23	1.86	.10	.10	T	.00	.00	.00	.00	.00	.00	.00	.00	
24	2.34	.11	.15	.01	.00	.00	.00	.00	.30	.00	.00	.00	
25	.73	2.81	.16	.11	.00	.00	.00	.28	T	.00	.00	.00	
26	.43	.54	1.33	.03	.00	.00	.00	T	.00	.00	.00	.00	
27	.24	.36	.38	.03	.00	.00	.00	.00	.00	.00	.00	.00	
28	.16	.32	.22	.03	.00	.00	.00	.00	.00	.00	.00	.00	
29	.12		.17	.01	T	.00	.00	.00	.00	.00	.00	.00	
30	.06		.10	.01	.00	.00	.00	.00	.00	.00	.00	.00	
31	.08		.06		.00		.00	.00		.00		.00	
MEAN INCHES	1.46	.78	.44	.02	T	.00	T	.01	.01	.01	.00	.00	
		2.69	1.68	.09	.01	.00	.01	.04	.05	.03	.00	.00	
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.123967.													
1965 SELECTED RUNOFF EVENT					BLACKSBURG, VIRGINIA PONY MOUNTAIN BRANCH W-I							13.12	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)			
Event of September 24 & 25, 1965													
9-24	RG R-1	2/.0065	9-24	RG	R-2		9-24	1404	.1798	.0000			
	1/.08			1345	.00						.00	1406	.4661
9-24	RG R-2	3/.16		1349	1.05	.07		1408	.8451	.0002			
	1351			3.30	.18	1410					1.6341	.0004	
				1355	1.05	.25		1412	2.7267	.0008			
				1359	1.50	.35							
				1405	.00	.35		1414	4.0108	.0013			
				1406	9.00	.50		1416	5.3084	.0021			
				1411	1.56	.63		1418	6.4996	.0032			
				1413	3.60	.75		1420	8.0042	.0044			
				1416	1.40	.82		1422	9.3637	.0059			
				1419	2.20	.93		1424	9.7775	.0076			
				1512	.01	.94		1427	9.6344	.0101			
				1524	.15	.97		1432	8.1009	.0139			
				1544	.09	1.00		1436	6.9116	.0165			
				1555	.05	1.01		1442	5.1556	.0196			
				1630	.02	1.02		1449	3.4248	.0222			
				1642	.15	1.05		1500	2.1253	.0248			
				1657	.04	1.06		1510	1.3440	.0263			
				1728	.02	1.07		1524	.7793	.0276			
				1805	.06	1.11		1540	.4757	.0285			
				1850	.05	1.15		1600	.2901	.0291			
				RG	R-1	1.18		1636	.1160	.0297			
				2 RG	AVG 4/	1.17		1720	.0599	.0301			
								1800	.0387	.0302			
								1912	.0232	.0304			
								2036	.0135	.0306			
								2212	.0058	.0307			
								2400	.0039	.0307			
								9-25 0200	5/.0000	.0307			
NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0051653. FOR 30-DAY ANTECEDENT P & Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ .08 IN. FROM 0508 TO 0530. 2/ CONTINUOUS FLOW PRIOR TO 1404. 3/ .16 IN. FROM 0507 TO 0530. 4/ THIESSEN WEIGHTED FOR RG R-1 AND R-2. 5/ ZERO FLOW.													



BLACKSBURG, VIRGINIA PONY MOUNTAIN BRANCH W-I

MONTHLY PRECIPITATION AND RUNOFF (inches)							BLACKSBURG, VIRGINIA CHUB RUN W-I 13.13 AREA—2023 ACRES (3.16 SQ. MILES)									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sub>1</sub>	2.97	3.42	3.64	1.85	2.35	1.28	.72	2.00	2.75	1.41	.77	.23	23.39		
	C	1.12	1.55	1.71	.63	.37	.12	.04	.02	.02	.04	.04	.05	5.71		
STA AVG <sub>2</sub> (59-65)	P <sub>2</sub>	2.44	3.78	3.74	2.89	3.08	3.52	2.25	2.61	2.85	2.12	2.90	2.08	34.26		
	C	1.07	1.25	1.98	1.38	.80	.59	.21	.10	.09	.23	.40	.44	8.54		
MEAN P <sub>3</sub>																
25 YR		2.53	2.35	3.27	2.86	3.62	3.51	3.89	4.45	3.32	3.34	2.77	2.55	38.46		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-5	.03	3-5	.03	3-5	.05	3-4	.13	3-4	.20	3-4	.31	3-4	.43	3-2	.80
MAXIMUMS FOR PERIOD OF RECORD																
1959 TO 19 65	9-30 1959	.24	9-30 1959	.17	9-30 1959	.24	9-30 1959	.34	9-30 1959	.40	6-20 1962	.52	6-19 1962	.90	3-29 1960	1.58
NOTES: Watershed conditions: Mixed cover; farm woods, predominantly hardwoods mixed with conifers, 58%; permanent pasture, a fair cover of native grasses, 30%; corn, 3%; alfalfa and other hay crops, 2%; small grain, 1%; total cultivated, 6%; idle, 5%; roads, 1%. 1/ Precipitation Thiessen weighted from R-1, R-2 and R-3. 2/ Determined from continuous records from September, 1959 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 25-yr (1941-65) U.S. Weather Bureau record period at Luray (5 miles E), Virginia. Missing monthly totals for Jan. and Feb. 1941 were estimated from nearby Weather Bureau records at Riverton, Va.																
1965 DAILY PRECIPITATION (inches)							BLACKSBURG, VIRGINIA CHUB RUN W-I 13.13									
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.23M	.00	.00	.00	.02	.00	.00	.35	.07	.10	.00	.00				
2	.07M	.00	.10N	.00	.00	.41	.00	.00	.00	.00	.00	.00				
3	.00	.00	.02N	.00	.00	.03	.00	.00	.00	.00	.00	.00				
4	.00	.00	1.41N	.00	.00	.00	.01	.06	.00	.00	.00	.00				
5	.00	.00	.53N	.00	.23	.00	.02	.00	.00	.00	.00	.00				
6	.00	.00	.00	.21	.40	.00	.00	.16	.00	.00	.00	.00				
7	.20M	1.35	.00	.00	.37	.00	.17	.00	.00	1.05	.00	.00				
8	.01M	T	.00	.13	.00	.00	.10E	T	.00	.06	.00	.00				
9	.33M	.14S	.00	.10	.00	.04	.13E	.00	.00	.00	.00	.00				
10	.51M	.09S	.00	.00	.00	.00	.03E	.00	.00	.00	.28	.00				
11	T	.00	.00	.16	.00	.00	.21E	.00	1.15	.00	.00	.07				
12	.00	.00	.00	.00	.04	.00	.00	.00	.59	.00	T	.00				
13	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.06				
14	.00	.13S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
15	.01M	T	.00	.23	.00	.16	.04	.00	.00	.00	.00	.00				
16	.20M	.00	.00	.00	.00	.17	T	.00	.22	.00	.00	.00				
17	.02M	.00	.70N	.00	.00	.11	.00	.00	.00	.00	.02	.00				
18	.00	.00	T	.06	.00	.00	.00	.14	.00	.00	.00	.00				
19	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00	.00	.00				
20	.00	.00	.07N	.00	.00	.00	.00	.00	.00	.00	.00	.00				
21	.00	.00	.00	.00	.00	.00	.00	.58	.00	.00	.15	.01				
22	.00	.00	.00	.00	.10	.00	.00	.19	.00	.20	.09	.00				
23	1.00M	.00	.00	.12	.06	.05	.00	T	.02	.00	.00	.00				
24	.18S	.23	.01	.28	.00	.09	.00	T	.65	.00	.00	.00				
25	.00	1.48	.24	.27	.37	.00	.00	.18	.00	.00	.00	.09				
26	.00	.00	.44	.03	.00	.00	.00	.34	.00	.00	.00	.00				
27	.00	.00	.00	.09	.41	.00	.00	T	.00	.00	.23	.00				
28	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00				
29	.00	.12	.00	.00	.32	.00	.00	.00	.00	.00	.00	.00				
30	.21S	-----	.00	.00	.00	.22	.00	.00	.02	.00	.00	.00				
31	T	-----	.00	-----	.00	-----	.01	.00	-----	.00	-----	.00				
TOTAL	2.97	3.42	3.64	1.85	2.35	1.28	.72	2.00	2.75	1.41	.77	.23				
STA AV	2.44	3.78	3.74	2.89	3.08	3.52	2.25	2.61	2.85	2.12	2.90	2.08				
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1, R-2 & R-3. STA AV IS FOR PERIOD SEPTEMBER 1959 THROUGH 1965. FOR DRAINAGE PATTERN MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 13.13-5.																



1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA CHUB RUN W-I						13.13
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	1.56	3.86	4.76	2.62	1.29	.51	.21	.05	.02	.08	.09	.13
2	1.97	3.72	4.36	2.53	1.27	.56	.15	.11	.02	.07	.09	.13
3	1.58	3.19	4.22	2.35	1.22	.66	.13	.05	.02	.06	.09	.12
4	1.40	2.75	6.98	2.24	1.18	.55	.13	.04	.01	.03	.09	.12
5	1.40	4.31	24.72	2.09	1.25	.46	.14	.05	.01	.04	.09	.12
6	1.30	2.97	9.60	2.21	1.41	.44	.14	.06	.02	.05	.09	.13
7	1.27	10.28	7.15	2.09	2.19	.40	.14	.05	.01	.41	.10	.11
8	1.48	7.92	5.95	1.97	1.61	.38	.18	.04	.01	.20	.11	.11
9	1.64	6.39	5.15	2.19	1.40	.38	.13	.03	.01	.12	.11	.13
10	2.23	6.08	4.57	1.88	1.32	.34	.15	.03	T	.11	.13	.13
11	2.16	5.30	4.06	1.99	1.22	.32	.23	.03	.28	.10	.18	.14
12	2.24	4.77	3.76	1.80	1.23	.31	.18	.03	.26	.09	.12	.14
13	2.17	4.25	3.47	1.63	1.12	.29	.14	.01	.18	.08	.11	.15
14	1.98	3.94	3.25	1.63	1.00	.25	.13	.01	.10	.08	.11	.14
15	2.52	3.88	3.14	1.88	.93	.33	.12	.01	.06	.08	.11	.13
16	2.64	3.59	3.03	1.68	.89	.44	.12	.01	.08	.08	.11	.13
17	2.56	3.40	3.96	1.50	.82	.51	.10	.01	.10	.08	.11	.13
18	1.83	3.18	3.47	1.46	.78	.42	.08	.03	.07	.08	.11	.13
19	1.76	2.87	2.99	1.62	.73	.35	.08	.04	.05	.08	.11	.13
20	1.69	3.05	2.75	1.44	.66	.31	.07	.02	.05	.08	.11	.13
21	1.56	2.67	2.84	1.36	.69	.26	.07	.08	.04	.08	.13	.13
22	2.07	2.31	2.82	1.29	.66	.20	.07	.15	.03	.14	.18	.13
23	7.18	2.19	2.71	1.35	.72	.20	.07	.06	.02	.12	.14	.13
24	12.52	2.20	2.63	1.54	.72	.26	.06	.06	.21	.09	.13	.13
25	7.26	14.29	2.81	1.83	.79	.27	.06	.08	.12	.09	.13	.17
26	5.85	6.90	4.53	1.63	.69	.19	.05	.10	.07	.09	.13	.13
27	4.84	5.87	3.48	1.55	.55	.18	.05	.10	.06	.09	.21	.14
28	4.29	5.31	3.24	1.50	.86	.21	.04	.06	.06	.09	.14	.13
29	3.94		3.35	1.41	.79	.16	.04	.02	.06	.09	.13	.13
30	3.60		3.07	1.35	.62	.24	.04	.03	.05	.09	.13	.14
31	4.42		2.81		.54		.06	.02		.09		.15
MEAN	3.06	4.70	4.70	1.79	1.00	.35	.11	.05	.07	.10	.12	.13
INCHES	1.12	1.55	1.71	.63	.37	.12	.04	.02	.02	.04	.04	.05

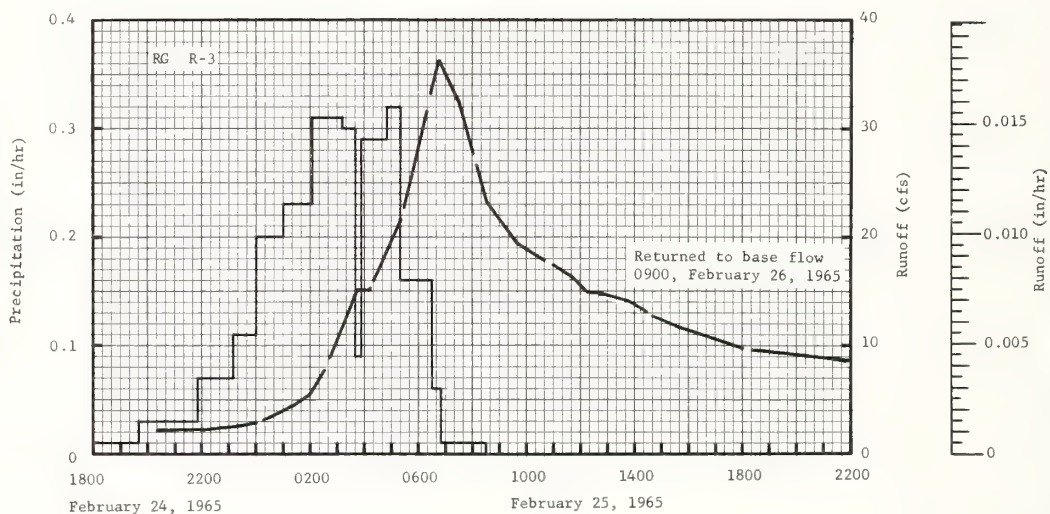
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.011766.

1965 SELECTED RUNOFF EVENT				BLACKSBURG, VIRGINIA				CHUB RUN W-I		13.13																								
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF																											
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)																								
RG'S R-1 R-2 & R-3			Event of February 24, 25 and 26, 1965																															
			RG			R-2																												
			2-24	.00	1/.0215	2-24	1930	.00	.00	2-24	2020	2.1622	.0000																					
							2100	.03	.04		2200	2.3254	.0018																					
							2220	.02	.07		2320	2.6314	.0034																					
							2320	.07	.14		2400	2.9578	.0044																					
							2400	.08	.19		2-25	0032	3.3454	.0052																				
			2-25				0145	.14	.44		0120	4.3857	.0067																					
							0230	.21	.60		0200	5.6300	.0083																					
							0340	.26	.90		0232	7.6902	.0101																					
							0450	.17	1.10		0340	14.5441	.0163																					
							0505	.40	1.20		0344	15.0337	.0167																					
			<u>Watershed conditions</u>  Woods, hardwoods and conifers, good cover, 58%; pasture, mixture of native grasses, mostly dormant, fair cover, 29%; hay, alfalfa and orchardgrass, dormant 3 to 6 in. tall, good cover, 6%; corn stubble mostly seeded to small grain, fair cover, 2%; idle, good cover of weeds and grass, 3%; small grain, 2 to 3 in. tall, poor to fair cover, 1%; paved roads, 1%.																															

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0004902. FOR 30-DAY ANTECEDENT P & Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ CONTINUOUS FLOW PRIOR TO 2020.

1965			SELECTED RUNOFF EVENT				BLACKSBURG, VIRGINIA				CHUB RUN W-I		13.13	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of February 24, 25 and 26, 1965 - Continued														
			2-25	RG	R-3		2-26	0900	1/6.7111	.2059				
				0353	.09	1.22								
				0450	.29	1.50								
				0520	.32	1.66								
				0630	.16	1.85								
				0650	.06	1.87								
				0830	.01	1.89								
				RG	R-1	1.39								
				3 RG	AVG 2/	1.67								

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0004902. 1/ NORMAL BASE FLOW. 2/ THIESSEN WEIGHTED FOR RG R-1, R-2 & R-3.



BLACKSBURG, VIRGINIA      CHUB RUN W-I

MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA						FOSTERS CREEK W-I		13.14	
						AREA—389 ACRES									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965	P 1	2.83	3.74	4.48	2.52	1.91	3.87	1.97	3.46	2.34	1.84	.71	.22	29.89	
	Q	.79	1.99	2.27	.75	.36	.42	.14	.09	.06	.10	.09	.11	7.17	
STA AVE 2/P		2.73	3.83	4.16	2.62	2.56	3.15	2.77	2.66	2.94	3.16	2.81	2.66	36.05	
	(60-65) Q	1.31	2.16	2.37	1.12	.69	.37	.24	.14	.11	1.28	.38	.66	10.83	
MEAN P 3/															
50 YR	PR	3.32	2.87	3.64	3.42	3.38	3.53	4.55	4.27	3.17	2.82	2.73	2.94	40.64	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-4	.22	3-4	.20	3-4	.36	2-7	.71	2-7	1.04	2-7	1.21	2-7	1.30	2-7	1.48

MAXIMUMS FOR PERIOD OF RECORD																
19 60 TO	10-20	1.71	10-20	.76	10-20	1.02	10-20	2.06	10-20	3.02	10-20	4.96	10-20	5.89	10-20	5.96
19 65	1961		1961		1961		1961		1961		1961		1961		1961	

NOTES: Watershed conditions: Mixed cover; farm woods, predominantly hardwoods, 45%; permanent pasture, usually a good cover of native grass and clover mixture, 34%; corn, 1%; small grain, 1%; hay mixtures such as alfalfa, orchardgrass, lespedeza and other clovers, 5%; total cultivated, 7%; idle land, usually a good cover of tall weeds, brush and native grass, 12%; paved roads, 2%. 1/ Precipitation Thiessen weighted from R-1 and R-2. 2/ Determined from continuous records from September, 1960 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 50-yr (1916-65) U.S. Weather Bureau record period at Louisa, Virginia. Records at Mineral, Va. utilized to 1940. During change over, months of Jan. and Feb. 1941 and Mar., Oct., Nov., and Dec. 1940, had missing records.

1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA						FOSTERS CREEK W-I		13.14	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC			
1	.07	.00	.00	.04	.00	.00	.00	.83	.00	.17	.00	.00			
2	.03	.00	.22	.02	.00	.02	.00	.27	.00	.00	.00	.00			
3	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00			
4	.00	.00	1.81	.00	.00	.00	.00	.00	.00	.00	.00	.00			
5	.00	.00	.32	.00	.25	.00	.35	.00	.00	.00	.00	.00			
6	.00	.00	.00	.21	.04	.00	.00	.00	.00	.00	.00	.00			
7	.18	2.23	.00	.00	.04	.00	.05	.00	.00	1.57	.00	.00			
8	.03	.00	.00	.38	.00	.00	.00	.00	.00	.02	.00	.00			
9	.525	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00			
10	.805	.10	.00	.00	.00	.00	.33	.00	.00	.00	.23	.00			
11	.00	.00	.00	.50	.00	2.00	.33	.00	.19	.00	.03	.00			
12	.00	.01	.00	.00	.00	.00	.04	.00	.50	.00	.01	.01			
13	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00	.08	.11			
14	.00	.335	.00	.00	.00	.00	.50	.00	.00	.00	.00	.00			
15	.00	.00	.00	.09	.00	.64	.02	.00	.00	.00	.00	.00			
16	.255	.00	.00	.01	.00	.29	.00	.00	.59	.00	.00	.00			
17	.045	.00	.66N	.00	.00	.03	.00	.10	.01	.00	.00	.00			
18	.00	.00	.00	.00	.00	.01	.00	.15	.00	.00	.00	.00			
19	.00	.00	.01	.16	.00	.00	.18	.00	.00	.00	.00	.00			
20	.00	.00	.14	.00	.04	.00	.00	.00	.00	.00	.00	.00			
21	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.12	.03			
22	.00	.00	.00	.00	.00	.00	.00	.07	.00	.08	.17	.00			
23	.42	.01	.01	.05	.00	.00	.00	.43	.00	.00	.00	.00			
24	.23	.28	.01	.29	.00	.06	.00	.00	.88	.00	.00	.00			
25	.00	.78	.60	.20	.63	.00	.00	1.03	.00	.00	.00	.07E			
26	.00	.00	.69	.21	.00	.00	.00	.46	.00	.00	.00	.00			
27	.00	.00	.00	.29E	.04	.00	.10	.00	.00	.00	.07	.00			
28	.00	.00	.00	.00	.23	.00	.04	.00	.01	.00	.00	.00			
29	.00	.00	.00	.00	.64	.39	.00	.00	.00	.00	.00	.00			
30	.265	-----	.00	.00	.00	.43	.03	.00	.00	.00	.00	.00			
31	.00	-----	.00	-----	.00	-----	.00	-----	-----	-----	-----	.00			
TOTAL	2.83	3.74	4.48	2.52	1.91	3.87	1.97	3.46	2.34	1.84	.71	.22			
STA AVE	2.73	3.83	4.16	2.62	2.56	3.15	2.77	2.66	2.94	3.16	2.81	2.66			

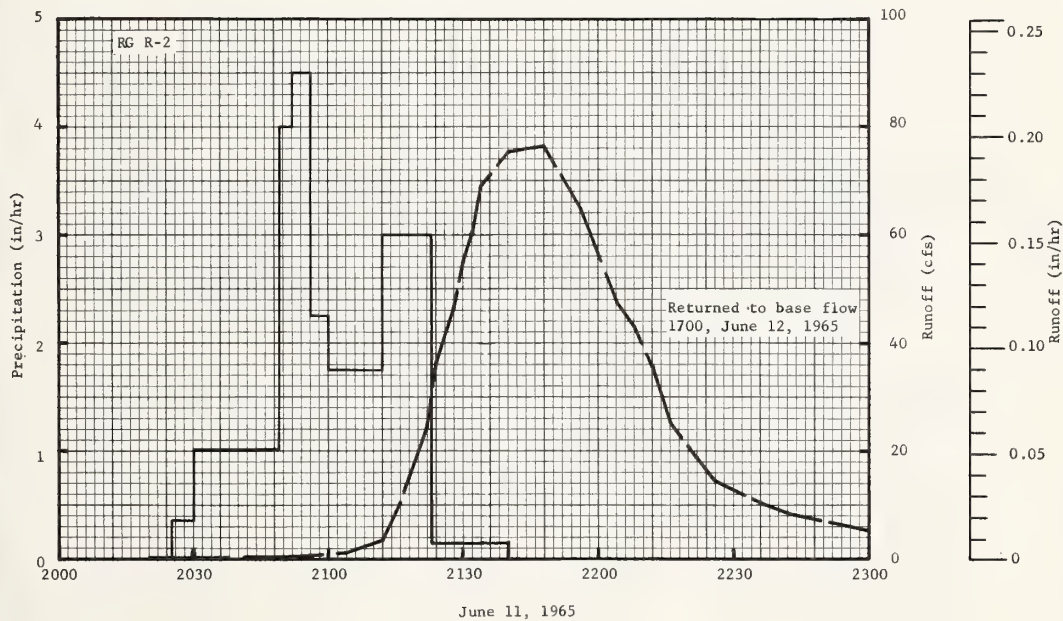
NOTES: PRECIPITATION AMOUNTS ARE THIESSEN WEIGHTED VALUES FROM GAGES R-1 & R-2. STA AV IS FOR PERIOD SEPTEMBER 1960 THROUGH 1965. FOR DRAINAGE PATTERN MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, MISC. PUB. 994, P. 13.14-4.



1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA			FOSTERS CREEK W-I			13.14
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.14	.21	.28	.31	.31	.11	.10	.19	.02	.06	.04	.04
2	.16	.19	.30	.30	.23	.10	.08	.11	.03	.04	.04	.05
3	.15	.18	.41	.28	.23	.12	.08	.04	.02	.04	.04	.05
4	.15	.17	7.76	.28	.19	.11	.07	.04	.02	.03	.04	.05
5	.15	.18	11.30	.28	.22	.10	.09	.04	.02	.03	.04	.05
6	.15	.27	1.27	.33	.28	.10	.08	.03	.02	.04	.04	.05
7	.14	18.50	.60	.32	.26	.09	.11	.03	.02	.45	.04	.05
8	.19	2.65	.44	.33	.24	.09	.10	.03	.01	.08	.04	.05
9	.46	.73	.38	.68	.21	.08	.07	.03	.01	.05	.04	.05
10	2.68	.59	.33	.36	.20	.08	.08	.02	.01	.04	.05	.05
11	.89	.44	.29	1.12	.18	2.85	.13	.01	.01	.04	.06	.05
12	.47	.41	.28	.59	.18	.44	.11	.01	.06	.03	.05	.05
13	.34	.38	.28	.40	.16	.15	.08	.01	.08	.03	.06	.07
14	.27	.40	.28	.34	.15	.11	.18	.01	.04	.03	.05	.06
15	.22	.39	.28	.41	.15	.22	.12	.01	.02	.03	.04	.05
16	.22	.32	.26	.37	.16	.44	.08	.02	.09	.03	.04	.05
17	.22	.30	.78	.31	.15	.21	.07	.02	.03	.04	.04	.05
18	.20	.29	.67	.28	.14	.16	.06	.02	.02	.04	.05	.06
19	.19	.27	.39	.32	.13	.13	.06	.01	.02	.04	.04	.06
20	.18	.25	.35	.31	.12	.11	.06	.01	.02	.04	.05	.06
21	.21	.25	.32	.28	.14	.09	.05	.01	.02	.04	.06	.06
22	.37	.23	.31	.28	.15	.09	.05	.03	.02	.05	.06	.06
23	.80	.22	.35	.27	.13	.08	.05	.07	.02	.04	.06	.06
24	1.93	.24	.29	.33	.13	.11	.04	.04	.13	.04	.05	.06
25	.58	3.28	.75	.54	.33	.09	.04	.18	.04	.04	.05	.08
26	.35	.53	5.68	.62	.17	.08	.03	.18	.02	.04	.05	.07
27	.28	.35	.85	.52	.13	.07	.03	.07	.02	.04	.06	.06
28	.23	.32	.50	.67	.12	.07	.03	.03	.03	.04	.05	.06
29	.22		.42	.44	.37	.14	.03	.02	.05	.04	.05	.06
30	.21		.35	.36	.13	.17	.03	.02	.04	.04	.05	.06
31	.21		.31		.12		.03	.02		.04		.08
MEAN	.42	1.16	1.20	.41	.19	.23	.07	.05	.03	.05	.05	.06
INCHES	.79	1.99	2.27	.75	.36	.42	.14	.09	.06	.10	.09	.11
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.061187.												
1965 SELECTED RUNOFF EVENT						BLACKSBURG, VIRGINIA			FOSTERS CREEK			13.14
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
	RG'S R-1 and R-2		Event of June 11 & 12, 1965									
				RG	R-2							
6-11	.00	1/ .0041	6-11	2025	.00	.00	6-11	2020	.0628	.0000		
				2030	.36	.03		2032	.1020		T	
				2049	1.01	.35		2046	.2119	.0001		
				2052	4.00	.55		2050	.4120	.0002		
				2056	4.50	.85		2056	.8359	.0003		
Watershed conditions				2100	2.25	1.00		2104	1.3029	.0007		
Woods, predominantly hardwoods, some conifers, good cover, 45%; pasture, good cover of native grass, 34%; idle, good cover of weeds and grass, 1 to 2.5 ft. tall, 12%; hay, mostly orchard-grass, 12 to 18 in. tall, good cover, 5%; corn, 5 to 7 ft. tall, fair cover, 1%; small grain 36 to 42 in. tall, 1%; paved roads, 2%.				2112	1.75	1.35		2112	3.5240	.0015		
				2120	3.00	1.75		2114	7.1029	.0020		
				2123	3.00	1.90		2116	10.6308	.0027		
				2140	.14	1.94		2118	15.3674	.0038		
				RG	R-1	2.05		2122	24.7425	.0072		
				2 RG	AVG 2/	2.00		2124	36.2171	.0098		
								2128	46.3966	.0168		
								2130	55.1634	.0212		
								2132	60.6260	.0261		
								2134	69.0200	.0316		
								2140	75.4480	.0500		
								2148	76.2211	.0758		
								2156	64.9466	.0997		
					2204	47.9546	.1189					
					2208	43.1826	.1267					
					2212	35.8914	.1334					
					2214	30.0874	.1362					
					2216	25.5902	.1385					
					2222	18.7972	.1442					
					2226	14.7239	.1470					
					2236	10.4856	.1524					
					2242	8.7864	.1549					
					2300	5.7765	.1604					
					2320	4.3128	.1647					
NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0025495. FOR 30-DAY ANTECEDENT P & Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/ CONTINUOUS FLOW PRIOR TO 2020. 2/ THIESSEN WEIGHTED FOR RG R-1 AND R-2.												

1965			SELECTED RUNOFF EVENT				BLACKSBURG, VIRGINIA				FOSTERS CREEK		13.14	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
			Event of June 11 & 12 - Continued											
							6-11	2354	2.7745	.1698				
								2400	2.6293	.1705				
							6-12	0016	2.1427	.1721				
								0044	1.7345	.1745				
								0112	1.3735	.1763				
								0136	1.2165	.1776				
								0220	.9301	.1796				
								0320	.7417	.1818				
								0404	.6397	.1831				
								0516	.4905	.1848				
								0648	.4120	.1865				
								1020	.3061	.1898				
								1700	1/.1923	.1940				

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0025495. 1/ NORMAL BASE FLOW.



BLACKSBURG, VIRGINIA FOSTERS CREEK W-I

MONTHLY PRECIPITATION AND RUNOFF (inches)						BLACKSBURG, VIRGINIA CHESTNUT BRANCH W-I AREA—1058 ACRES (1.65 SQ. MILES)								13.15
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965	2.66	4.05	4.19	1.74	3.26	3.04	2.77	1.53	2.01	4.60	1.13	.21	31.19	
o	.77	1.57	1.31	.54	.37	.32	.21	.08	.06	.26	.19	.17	5.85	
STA AVG	2.72	4.05	4.02	2.26	2.78	3.40	3.29	2.13	3.32	2.61	3.50	2.65	36.73	
(60-65)	1.07	1.47	1.61	.90	.51	.53	.32	.22	.22	.36	.62	.73	8.56	
MEAN														
35 YR	3.36	3.10	4.10	3.35	3.89	4.34	4.48	4.85	3.29	2.98	3.05	3.28	44.07	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-7	.12	2-7	.10	2-7	.19	2-7	.43	2-7	.63	2-7	.80	2-7	.89	2-7	1.10

MAXIMUMS FOR PERIOD OF RECORD																
1960 TO 1965	11-6 1961	.26	11-6 1961	.19	11-6 1961	.27	2-7 1965	.43	2-7 1965	.63	2-7 1965	.80	2-7 1965	.89	2-18 1961	1.42

NOTES: Watershed conditions: Mixed cover; corn, 4%; tobacco, 1%; small grain, 1%; hay mixture such as alfalfa, red clover, lespedeza and native grass, 21%; total cultivated, 27%; permanent pasture, usually a good cover of native grass mixture, 27%; farm woods, a mixture of hardwoods and pine, 37%; idle land with good cover of weeds and annual grasses, 8%; roads, 1%. 1/ Precipitation Thiessen weighted from R-1, R-2 and R-3. 2/ Determined from continuous records from September, 1960 through 1965, precipitation Thiessen weighted. 3/ Mean P based on 35-yr (1931-65) U.S. Weather Bureau record period at Bedford, Virginia. Missing totals for 16 months were estimated from nearby Weather Bureau records at Lynchburg, Va. (Airport)

1965 DAILY PRECIPITATION (inches)						BLACKSBURG, VIRGINIA CHESTNUT BRANCH W-I 13.15							
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.05M	.00	.00	.02	.00	.00	.00	.63	.00	1.08	.00	.00	
2	.00	.00	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00	
3	.00	.00	.05	.00	.00	.05	.01	.00	.00	.00	.00	.00	
4	.00	.00	.97	.00	.00	.00	.10	.00	.00	.00	.00	.00	
5	.00	.00	.05	.00	.22	.00	.17	.00	.00	.00	.00	.00	
6	.00	T	.00	.04	.03	.00	.00	.06	.00	.00	.00	.00	
7	.02M	2.57	.00	.00	.34	.00	.28	.38	.00	2.73	.00	.00	
8	.00	.02	.00	.06	.00	.05	.06	.09	.00	.00	.00	.00	
9	.04M	.01	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	
10	.58M	.05	.00	.00	.00	.00	.29	.00	.00	.00	.36	.00	
11	.00	.07	.00	.12	.00	T	1.57	.00	T	.00	.02	.00	
12	.00	.025	.00	.00	.00	1.24	.00	.00	.86	.00	.15	.00	.02E
13	.00	.00	.00	.00	.00	.01	.00	.00	.38	.00	.04	.01	
14	.00	.36S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
15	.00	.00	.00	.42	.00	1.22	.28	.00	.00	.00	.00	.00	
16	.25E	.00	.00	.00	.03	.34	.00	.00	.00	.00	.00	.00	
17	.02E	.00	.45	.00	.00	.09	.00	.00	.00	.00	.06	.00	
18	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	
19	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00	.00	.00	
20	.00	.00	.20	.00	.61	.00	.00	.00	.00	.00	.00	.06S	
21	.00	.00	.00	.00	.30	.00	.00	.10	.00	.00	.14	.00	
22	.00	.00	.00	.00	.00	.00	.00	.01	.11	.79	.25	.00	
23	.88	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	
24	.55	.14M	.04	.07	.00	.00	.00	.00	.36	.00	.00	.00	
25	.00	.81M	1.12	T	.77	.00	.00	.26	.00	.00	.00	.12	
26	.00	.00	.76	.12	T	.00	.00	.00	.00	.00	.00	.00	
27	.00	.00	.00	.60	.55	.00	.01	.00	.00	.00	.11	.00	
28	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00	
29	.00	.05	.00	.31	.03	.00	.00	.00	.00	.00	.00	.00	
30	.27S	-----	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00	
31	.00	-----	.00	-----	.00	-----	.00	-----	-----	.00	-----	.00	
TOTAL	2.66	4.05	4.19	1.74	3.26	3.04	2.77	1.53	2.01	4.60	1.13	.21	
STA AV	2.72	4.05	4.02	2.26	2.78	3.40	3.29	2.13	3.32	2.61	3.50	2.65	

NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AMOUNTS FROM R-1, R-2 AND R-3. STA AV IS FOR PERIOD SEPTEMBER 1960 THROUGH 1965. FOR DRAINAGE PATTERN MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, MISC. PUB. 994, P. 13.15-5.



1965 MEAN DAILY DISCHARGE (cfs)						BLACKSBURG, VIRGINIA CHESTNUT BRANCH W-I							13.15
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.84	.75	1.01	1.07	.59	.39	.24	.17	.05	.63	.25	.25	
2	.81	.76	1.16	1.02	.56	.35	.23	.31	.06	.20	.25	.25	
3	.68	.67	1.55	.96	.51	.40	.25	.13	.06	.13	.25	.25	
4	.67	.66	6.73	.96	.51	.38	.25	.13	.06	.11	.25	.25	
5	.64	.65	5.01	.90	.56	.36	.31	.13	.06	.11	.25	.25	
6	.61	.74	2.27	.90	.61	.34	.31	.12	.05	.12	.25	.25	
7	.61	33.32	1.73	.90	.69	.32	.36	.20	.05	3.80	.25	.25	
8	.61	5.84	1.40	.89	.65	.31	.32	.19	.05	.63	.25	.25	
9	.61	2.47	1.21	.93	.57	.31	.19	.18	.04	.35	.25	.25	
10	1.19	1.81	1.08	.84	.52	.29	.20	.14	.03	.29	.30	.25	
11	.95	1.55	1.01	.85	.46	.27	1.83	.12	.03	.26	.35	.25	
12	.85	1.41	.99	.79	.46	2.13	.86	.11	.15	.24	.31	.25	
13	.82	1.21	.93	.72	.44	.56	.36	.09	.34	.22	.37	.26	
14	.75	1.14	.88	.71	.42	.33	.30	.07	.12	.21	.30	.25	
15	.72	1.10	.82	.89	.42	.85	.35	.07	.09	.21	.30	.25	
16	.72	1.07	.82	.80	.42	1.50	.31	.07	.09	.21	.29	.25	
17	.72	1.07	1.02	.72	.40	.71	.24	.07	.09	.21	.28	.25	
18	.72	1.04	.92	.70	.36	.57	.22	.06	.08	.21	.25	.25	
19	.72	.94	.79	.76	.35	.44	.22	.06	.08	.21	.25	.25	
20	.72	.90	.87	.72	.39	.39	.21	.06	.07	.21	.25	.25	
21	.72	.90	.83	.67	.76	.36	.19	.07	.07	.21	.30	.25	
22	.70	.81	.78	.67	.41	.32	.19	.12	.07	.58	.44	.25	
23	2.01	.79	.78	.70	.38	.28	.18	.09	.08	.28	.33	.25	
24	6.46	.82	.78	.67	.38	.32	.18	.07	.15	.24	.30	.25	
25	2.75	3.71	3.59	.67	.89	.30	.17	.14	.12	.24	.30	.28	
26	1.71	1.41	10.29	.73	.53	.28	.16	.13	.09	.22	.29	.25	
27	1.22	1.22	3.01	.87	.94	.26	.15	.09	.09	.22	.34	.25	
28	1.02	1.11	1.93	.86	.59	.26	.13	.07	.09	.22	.28	.25	
29	.93	-----	1.68	.67	.66	.26	.14	.06	.09	.24	.28	.25	
30	.90	-----	1.35	.60	.43	.25	.14	.06	.09	.24	.26	.25	
31	.82	-----	1.17	-----	.42	-----	.14	.06	-----	.24	-----	.25	
MEAN	1.10	2.49	1.88	.80	.53	.47	.30	.11	.09	.37	.29	.25	
INCHES	.77	1.57	1.31	.54	.37	.32	.21	.08	.06	.26	.19	.17	

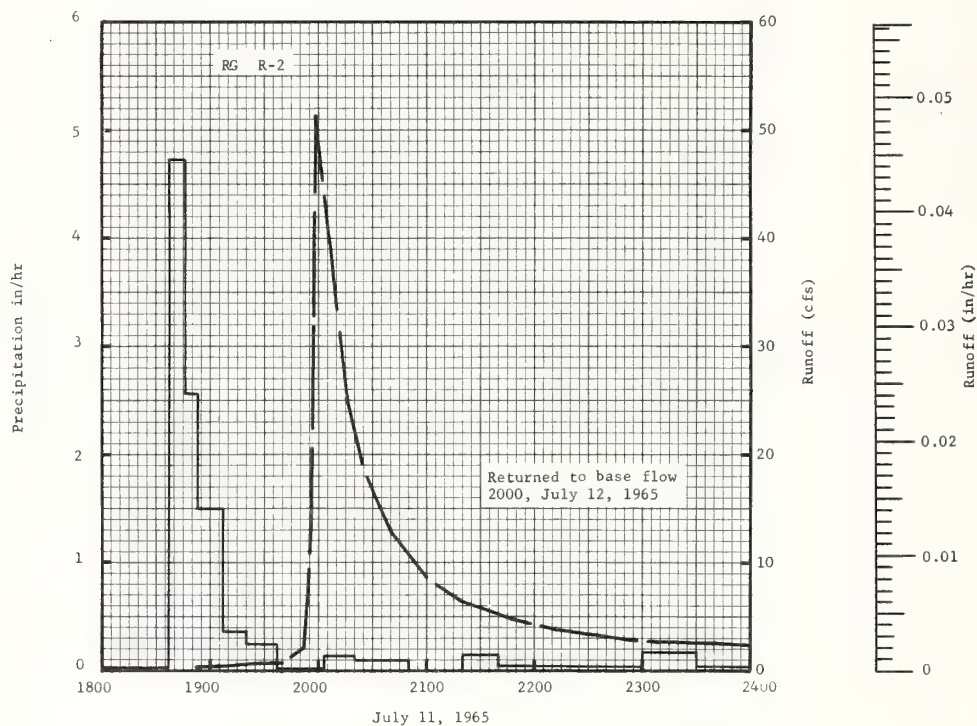
NOTES: TO CONVERT CFS TO IN/DAY, MULTIPLY BY 0.022497.

1965 SELECTED RUNOFF EVENT				BLACKSBURG, VIRGINIA CHESTNUT BRANCH W-I							13.15
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of July 11 and 12, 1965											
7-11	RG R-1 1/ .35	2/.0068	7-11	1800	RG R-2 .00	.00	7-11	1852	.3839	.0000	
				1837	.03	.02		1904	.4479	.0001	
				1846	4.73	.73		1928	.6932	.0003	
7-11	RG R-2 3/ .32			1853	2.57	1.03		1940	.7358	.0004	
				1907	1.50	1.38		1952	2.1435	.0007	
7-11	RG R-3 4/ .38			1920	.37	1.46		1954	6.2066	.0008	
				1937	.25	1.53		1956	13.4475	.0011	
				2003	.02	1.54		1957	34.1467	.0015	
				2020	.14	1.58		1958	51.1988	.0022	
				2050	.10	1.63		2016	25.2208	.0129	
Watershed conditions											
Woods, mostly hardwoods, some conifers, good cover, 37%; pasture, mostly a mixture of native grasses, 3 to 5 in. tall, fair to good cover, 27%; hay, mostly alfalfa and orchardgrass, good cover, 21%; idle, good cover of weeds, vines and grass 1 to 3 ft. tall, 8%; corn, 7 to 9 ft. tall, fair cover, 4%; small grain stubble, fair cover, 1%; tobacco, 2 to 3 ft. tall, 1%; paved roads, 1%.				2120	.00	1.63		2024	19.1742	.0157	
				2140	.15	1.68		2040	13.0316	.0197	
				2300	.04	1.74		2100	8.7660	.0231	
				2330	.18	1.83		2118	6.5691	.0253	
				2400	.04	1.85		2148	4.7349	.0279	
				RG R-3				2212	3.7751	.0295	
								2252	2.8900	.0316	
			7-11	1850	.00	.00		2308	2.6660	.0323	
				1900	.72	.12		2340	2.5487	.0336	
				1924	.58	.35		2400	2.4208	.0344	
				1933	.20	.38	7-12	0040	2.2928	.0359	
				2000	.02	.39		0052	2.1755	.0363	
				2020	.18	.45		0120	2.0582	.0372	
				2030	.12	.47		0220	2.0582	.0391	
				2110	.02	.48		0420	1.2264	.0422	

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0009374. FOR 30-DAY ANTECEDENT P AND Q, SEE DAILY TABLES ON THIS AND PREVIOUS PAGE. 1/.06 IN. FROM 0315 TO 0515; .17 IN. FROM 0645 TO 0745; .12 IN. FROM 0900 TO 1100. 2/ CONTINUOUS FLOW PRIOR TO 1852. 3/.01 IN. FROM 0300 TO 0500; .30 IN. FROM 0545 TO 1150; .01 IN. FROM 1450 TO 1530. 4/.01 IN. FROM 0240 TO 0430; .37 IN. FROM 0535 TO 1140.

1965      SELECTED RUNOFF EVENT			BLACKSBURG, VIRGINIA      CHESTNUT BRANCH				13.15			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
<u>Event of July 11 and 12, 1965 - Continued</u>										
			7-11	RG	R-3		7-12			
				2140	.12	.54		0540	1.0024	.0436
				2240	.03	.57		0800	.8318	.0456
				2300	.12	.61		1200	.6079	.0483
				2340	.21	.75		2000	<u>1</u> .4159	.0522
				2400	.09	.78				
				RG	R-1	.80				
				3 RG	AVG <u>2</u>	1.23				

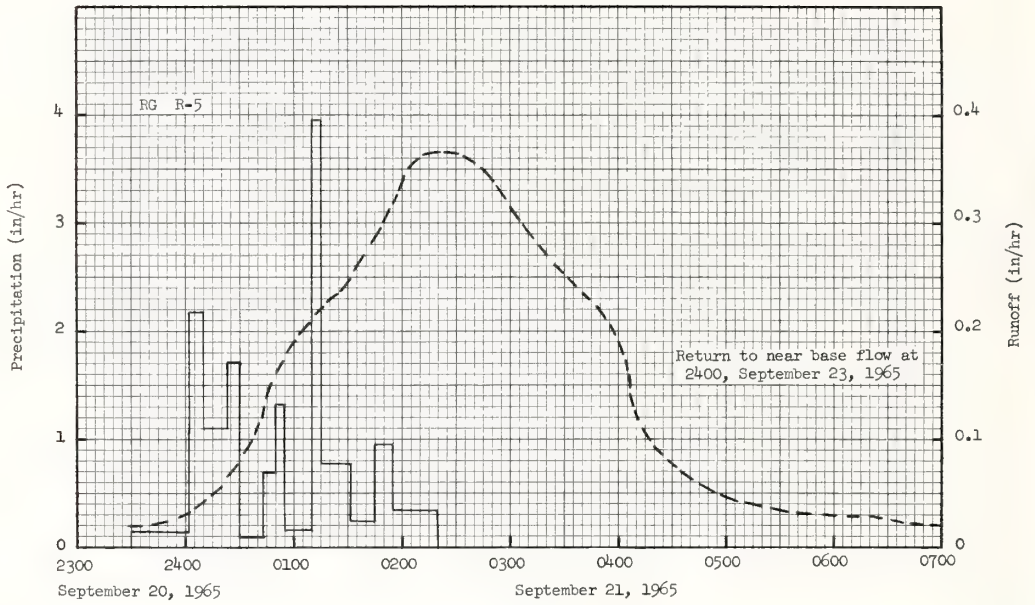
NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.0009374. 1/ NORMAL BASE FLOW. 2/ THIESSEN WEIGHTED FOR RG R-1, R-2 AND R-3.



BLACKSBURG, VIRGINIA      CHESTNUT BRANCH W-I

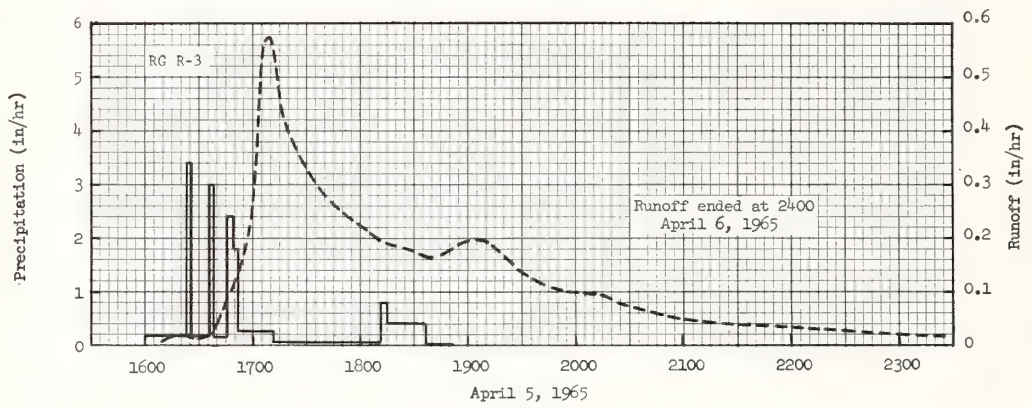
MONTHLY PRECIPITATION AND RUNOFF (inches)						IOWA CITY, IOWA RALSTON CREEK AREA—1930 ACRES (3.01 SQ. MILES)										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q 2/	2.25 .55	.52 .74	2.37 .85	7.87 1.97	6.53 1.22	2.59 .64	2.45 .11	4.45 .06	9.86 2.38	1.30 .30	1.62 .22	2.61 .84	44.42 9.88			
STA AV 3/P (25-65) Q	1.12 .43	1.05 .92	1.99 1.26	2.95 .73	3.60 .67	4.48 .75	3.93 .51	3.41 .30	3.56 .34	2.48 .28	2.09 .37	1.24 .27	31.90 6.83			
MEAN P 4/ 115 YR	1.50	1.39	2.29	2.90	4.02	4.48	3.90	3.58	3.92	2.54	2.05	1.54	34.11			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-21	.36	9-21	.35	9-21	.64	9-21	1.08	9-20	1.18	9-20	1.32	9-19	1.77	9-19	2.02
MAXIMUMS FOR PERIOD OF RECORD																
19 25 to 19 65	7-18 1956	.86	7-18 1956	.65	7-14 1962	.93	7-14 1962	2.23	7-14 1962	2.52	7-13 1962	2.62	7-13 1962	2.72	3-18 1962	4.15
NOTES: Watershed conditions: Approximately 40% cultivated; 35% pasture; 20% brush, timber and orchards; 5% urban development, roads and farmsteads. 1/ Precipitation, Thiessen average of five recording rain gages. 2/ Runoff records furnished by U. S. Geological Survey. 3/ Precipitation and runoff records began Sept. 1, 1924. Sept. 1-Dec. 31, 1924 amounts not included in average. 4/ Mean P based on 115-yr (1851-1965) U. S. Weather Bureau record period at Dubuque, Iowa.																
1965 SELECTED RUNOFF EVENT						IOWA CITY, IOWA RALSTON CREEK										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
5 RG 5/												Event of September 20-23, 1965				
8-21	.15	.0005	9-20	RG	R-5		9-20	2345	.0200	.0000						
8-22	.00	.0005		2330	.00	.00		2400	.0288	.0061						
8-23	.00	.0004		0002	.13	.07	9-21	0030	.0776	.0327						
8-24	.05	.0004		0010	2.18	.36		0100	.189	.0993						
8-25	.64	.0053		0023	1.10	.60		0130	.244	.2075						
8-26	.00	.0020		0030	1.71	.80		0145	.286	.2738						
8-27	.00	.0005		0043	.09	.82		0200	.334	.3512						
8-28	.00	.0004		0050	.69	.90		0210	.360	.4091						
8-29	.31	.0004		0055	1.32	1.01		0225	.365	.4997						
8-30	1.10	.0161		0110	.16	1.05		0245	.350	.6188						
8-31	.00	.0049		0115	3.96	1.38		0300	.316	.7020						
9-1	.00	.0009		0132	.78	1.60		0330	.253	.8441						
9-2	.00	.0006		0145	.23	1.65		0400	.195	.9560						
9-3	.00	.0005		0155	.96	1.81		0415	.104	.9934						
9-4	1.25	.0346		0220	.34	1.95		0430	.0761	1.0160						
9-5	.00	.0067		RG	R-1	1.99		0500	.0483	1.0471						
9-6	.65	.0198		RG	R-2	2.26		0600	.0288	1.0856						
9-7	.89	.0630		RG	R-3	2.01		0700	.0200	1.1100						
9-8	.19	.0119		RG	R-4	2.02		0900	.0104	1.1404						
9-9	.26	.0078						1100	.0077	1.1585						
9-10	.00	.0073		5 RG	AVG 5/	2.04		1400	.0066	1.1799						
9-11	.00	.0036						1900	.0049	1.2087						
9-12	.00	.0028						2400	.0040	1.2308						
9-13	.00	.0028						1200	.0031	1.2733						
9-14	.17	.0033						2400	.0024	1.3064						
9-15	.01	.0030						1200	.0018	1.3316						
9-16	.06	.0026						2400	6/ .0014	1.3511						
9-17	.00	.0026														
9-18	.04	.0026														
9-19	2.11	.0729														
9-20	7/1.82	8/.5184														
Watershed conditions: Corn and soybeans near maturity; small grain harvested; pasture, good cover, 3-6 in. tall.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 1946.08. FOR CONTOUR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 21.1-4. 5/ THIESSEN AVERAGE OF FIVE RECORDING RAIN GAGES. 6/ RETURN TO NEAR BASE FLOW. 7/ RAINFALL, 1.28 IN. FROM 0001 TO 1000; 0.54 IN. FROM 1940 TO 2220. 8/ RUNOFF PRIOR TO 2345.																





IOWA CITY, IOWA RALSTON CREEK

MONTHLY PRECIPITATION AND RUNOFF (inches)						McCREIDIE, MISSOURI STATION RESERVOIR WATERSHED W-1 AREA=154 ACRES										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	3.27 .48	1.17 .41	2.72 1.42	4.95 2.10	1.85 .00	4.60 .01	2.94 .01	4.70 .00	7.26 1.01	1.58 .01	.53 .00	2.09 .04	37.66 5.49			
STA AV 2/P (41-65) Q	1.43 .48	1.63 .70	2.83 1.27	3.59 1.14	4.03 .81	4.38 .78	3.52 .44	3.00 .07	3.64 .44	3.37 .84	1.94 .38	1.57 .33	34.93 7.68			
MEAN P 3/ 76 YR	1.84	1.79	2.92	3.71	4.68	4.64	3.51	3.71	4.34	2.85	2.17	1.80	37.96			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	4-5	.58	4-5	.36	4-5	.54	4-5	.87	4-5	.95	4-5	1.00	4-4	1.06	4-3	1.58
MAXIMUMS FOR PERIOD OF RECORD																
19 41 TO 19 65	10-4 1941	2.02	10-4 1941	1.20	10-4 1941	1.96	10-4 1941	3.94	10-4 1941	6.97	10-4 1941	7.74	10-3 1941	8.06	10-2 1941	8.80
NOTES: Watershed conditions: 43% pasture and meadow; 23% alfalfa; 28% row crops of corn and soybeans; 6% roads and farmstead. 1/ Precipitation, Thiessen average of 4 recording gages and 1 non-recording gage. 2/ Precipitation and runoff records began Jan. 1, 1941. 3/ Mean P based on 76-yr (1890-1965) U. S. Weather Bureau record period at Columbia, Missouri.																
1965 SELECTED RUNOFF EVENT						McCREIDIE, MISSOURI STATION RESERVOIR WATERSHED W-1										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of April 5 and 6, 1965																
5 RG 4/				RG	R-3		4 -5	1608	.0078	.0000						
3 -6	.00	.0070	4 -5	1600	.00	.00		1620	.0194	.0027						
3 -7	.01 S	.0090		1623	.18	.07		1628	.0132	.0049						
3 -8	.00	.0373		1626	3.40	.24		1639	.0308	.0089						
3 -9	.00	.0972		1636	.18	.27		1645	.0842	.0147						
3-10	.00	.0738														
3-11	.00	.0984		1638	3.00	.37		1652	.127	.0270						
3-12	.00	.0670		1646	.15	.39		1658	.223	.0445						
3-13	.00	.0243		1649	2.40	.51		1704	.506	.0810						
3-14	.00	.0182		1652	1.80	.60		1708	.577	.1171						
3-15	.14	.0174		1712	.27	.69		1716	.440	.1849						
3-16	.33	.0372		1812	.06	.75		1725	.364	.2452						
3-17	.57	.5385		1815	.80	.79		1740	.278	.3253						
3-22	.11 S	.0000		1837	.41	.94		1800	.227	.4095						
3-23	.44 S	.0000		1852	.04	.95		1812	.196	.4517						
3-24	.10 S	.0000						1825	.182	.4926						
3-25	.05 S	.0000		RG	R-4	1.07		1840	.163	.5356						
3-27	.00	.0813		RG	R-2	1.02		1855	.189	.5796						
3-28	.00	.0984		RG	R-8	1.03		1905	.199	.6119						
3-29	.00	.0308		RG	S-6	.95		1916	.180	.6467						
4 -3	1.06	.4006		5 RG	AVG 4/	1.04		1930	.136	.6836						
4 -4	.09	.1001						1956	.101	.7349						
4 -5	5/ .03	6/.0483						2016	.0935	.7673						
								2024	.0778	.7788						
								2045	.0600	.8029						
								2112	.0428	.8260						
								2155	.0369	.8545						
								2230	.0282	.8735						
								2325	.0180	.8947						
								2400	.0167	.9048						
								0140	.0108	.9276						
								0345	.0076	.9467						
								0630	.0053	.9645						
								0850	.0034	.9747						
								1200	.0023	.9836						
								1515	.0010	.9889						
								2040	.0005	.9920						
								2400	.0000	.9928						
Watershed conditions: 43% - Pasture, good, 3-6 in. tall; 23% - alfalfa, 3-5 in. tall; 28% - no cover, in preparation for corn and soybean planting; 6% - roads and farmstead.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 155.28. FOR REVISED TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 25.1-8. 4/ THIESSEN AVERAGE OF 4 RECORDING GAGES AND 1 NON-RECORDING GAGE. 5/ RAINFALL FROM 1500 TO 1600. 6/ RUNOFF FROM 0001 TO 1608.																



McCREIDIE, MISSOURI STATION RESERVOIR WATERSHED W-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 102 AREA — 1.26 ACRES								26.01		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.93 .00	3.63 .12	2.76 .00	3.02 .00	1.86 .00	1.23 .00	2.43 .00	4.43 .00	6.20 .04	3.67 .00	2.26 .00	.77 .00	35.19 .16			
STA AV 2/P (37-65) Q	1.65 .02	2.45 .04	4.32 .16	3.37 .06	3.93 .01	5.11 .20	3.81 .03	3.41 .04	2.30 .02	2.48 .01	2.21 T	2.15 .00	37.19 .59			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-1	.32	9-1	.04	9-1	.04	2-24	.08	2-24	.10	2-24	.10	2-24	.10	2-24	.10
MAXIMUMS FOR PERIOD OF RECORD																
19 37 to 1965 4/	6-12 1957	3.64	6-12 1957	1.31	6-12 1957	1.32	6-12 1957	1.32	6-12 1957	1.32	6-12 1957	1.33	3-4 1963	1.50	3-1 1963	1.69
Notes: Watershed conditions: Improved permanent pasture. 1/ Rain gage Y101. 2/ Precipitation and runoff records began Apr. 1937. Watershed discontinued Jan. 1, 1947, to Apr. 30, 1957, and Sept. 1, 1957, to Mar. 29, 1960. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio. 4/ No maximums taken for 1947 through 1956 or 1958 and 1959.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.1-4. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.1-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.1-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 129 AREA — 2.71 ACRES								26.03		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.71 .00	3.81 .03	2.59 .00	2.89 .00	1.87 .00	1.21 .00	2.28 .00	3.98 .00	6.16 .01	3.73 .00	1.99 .00	.61 .00	33.83 .04			
STA AV 2/P (38-65) Q	2.73 .05	2.52 .12	3.54 .19	3.43 .05	3.77 .05	4.28 .16	4.09 .06	3.06 .04	2.55 .05	2.16 .01	2.35 T	2.15 .01	36.63 .79			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-1	.09	2-24	.01	2-24	.02	2-24	.03	2-24	.03	2-24	.03	2-24	.03	2-24	.03
MAXIMUMS FOR PERIOD OF RECORD																
19 38 TO 1965	6-12 1957	2.36E	6-12 1957	.98E	9-1 1950	1.01	3-4 1963	1.53	3-4 1963	2.42	3-4 1963	2.90	3-3 1963	3.51	3-3 1963	4.00
NOTES: Watershed conditions: Improved permanent pasture. 1/ Rain gage 100. 2/ Precipitation and runoff records began Apr. 1938. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.3-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.3-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.1-1 above)  
26.3-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 135 AREA — 2.69 ACRES								26.04
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P 1/ Q	2.71 .00	3.81 .00	2.59 .00	2.89 .00	1.87 .00	1.21 .00	2.28 .00	3.98 .00	6.16 .00	3.73 .00	1.99 .00	.61 .00	33.83 .00	
STA AV 2/P (38-65) Q	2.73 .04	2.52 .13	3.54 .12	3.43 .03	3.77 .02	4.28 .12	4.09 .05	3.06 .04	2.55 .05	2.16 T	2.35 .01	2.15 .01	36.63 .62	
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965		.00		.00		.00		.00		.00		.00		.00		.00

MAXIMUMS FOR PERIOD OF RECORD																
19 38 TO 19 65	6-12 1957	2.38	6-12 1957	.92	9-1 1950	.94	3-4 1963	1.55	3-4 1963	2.19	3-4 1963	2.51	3-3 1963	3.06E	3-3 1963	3.07E

NOTES: Watershed conditions: Prevailing practice permanent pasture. 1/ Rain gage 100. 2/ Precipitation and runoff records began Apr. 1938. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.

NO RUNOFF, THEREFORE NO SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.4-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.4-1 AND 26.30-3.

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.4-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO								WATERSHED 130		26.05	
						AREA — 1.63 ACRES											
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965	P 1/ Q	2.74 .00	3.40 .11	2.45 .00	2.82 .00	2.03 .00	1.22 .00	2.24 .00	3.95 .00	6.06 .00	3.60 .00	1.82 .00	.65 .00	32.98 .11			
STA AV 2/P (38-65)	Q	2.69 .10	2.42 .15	3.39 .21	3.32 .09	3.73 .03	4.20 .19	4.16 .06	2.94 .02	2.58 .05	2.15 T	2.33 T	2.11 .01	36.02 .91			
MEAN P 3/ 57 YR		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.04	2-24	.03	2-24	.05	2-24	.07	2-24	.11	2-24	.11	2-24	.11	2-24	.11

MAXIMUMS FOR PERIOD OF RECORD																
19 38 TO 19 65	6-12 1957	4.06	6-12 1957	1.42	6-12 1957	1.44	3-4 1963	1.55	3-4 1963	2.16	3-4 1963	2.54	3-3 1963	3.14E	3-3 1963	3.33E

NOTES: Watershed conditions: Improved practice meadow. 1/ Rain gage 103. 2/ Precipitation and runoff records began May 1938. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau Record period at Coshocton, Ohio

NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.5-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.5-1 AND 26.30-3.

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.4-1 above)  
26.5-1

MONTHLY PRECIPITATION AND RUNOFF (inches)							COSHOCTON, OHIO WATERSHED 131 AREA — 2.21 ACRES							26.07		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P1/ Q	2.74 .00	3.40 T	2.45 .00	2.82 .00	2.03 .00	1.22 .00	2.24 .00	3.95 .00	6.06 .00	3.60 .00	1.82 .00	.65 .00	32.98 T		
STA AV 2/P (38-65) Q		2.69 .03	2.42 .02	3.39 .04	3.32 .02	3.73 .01	4.20 .04	4.16 T	2.94 T	2.58 .01	2.15 T	2.33 T	2.11 T	36.02 .17		
MEAN P 3/ 57 YR		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	T	2-24	T	2-24	T	2-24	T	2-24	T	2-24	T	2-24	T	2-24	T
MAXIMUMS FOR PERIOD OF RECORD																
19 38 TO 19 65	6-12 1957	1.18	6-12 1957	.41	6-12 1957	.45	6-12 1957	.45	6-12 1957	.45	6-12 1957	.45	6-12 1957	.45	6-12 1957	.45
Notes: Watershed conditions: Uneven age stand of mixed hardwoods in good woodland management. 1/ Rain gage 103. 2/ Precipitation and runoff records began May 1938. 3/ Mean P based on 57-yr. ((1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945,P.26.7-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.7-1, AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.7-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO						WATERSHED 132 AREA — 0.590 ACRES		26.08		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P1/ Q	2.74 .38	3.40 1.39	2.45 .71	2.82 .43	2.03 .00	1.22 .00	2.24 .00	3.95 .00	6.06 .00	3.60 .00	1.82 .00	.65 .00	32.98 2.91		
STA AV 2/P (48-65) Q		3.28 .22	2.63 .22	3.31 .48	3.47 .35	3.15 .08	3.69 .15	4.36 .01	2.61 T	2.61 .02	1.94 T	2.42 .00	2.23 .01	35.70 1.54		
MEAN P 3/ 57 YR		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.12E	2-25	.11E	2-25	.20E	2-25	.25E	2-25	.30E	2-25	.50E	2-25	.71E	2-24	1.26E
MAXIMUMS FOR PERIOD OF RECORD																
1948 TO 1965	6-12 1957	2.00E	4-25 1961	.73	4-25 1961	.99	4-25 1961	1.37	3-9 1964	1.67	3-9 1964	2.37	3-9 1964	2.78	3-4 1964	3.52
Notes: Watershed conditions: Uneven age stand of mixed hardwoods in good woodland management. 1/ Rain gage 103. 2/ Precipitation and runoff records began May 1948. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.8-2. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.8-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agriculture Research and Development Center

(See 26.7-1 above)  
26.8-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO						WATERSHED 123		26.10		
						AREA — 1.37 ACRES										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P 1/	3.00	3.87	2.62	3.12	1.83	1.41	2.35	4.27	6.34	3.74	2.10	.83	35.48		
	Q	.16	.85	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.06		
STA AV 2/P		2.79	2.55	3.49	3.55	3.78	4.48	4.19	3.05	2.60	2.29	2.44	2.27	37.48		
	(39-65) Q	.38	.35	.46	.26	.13	.33	.13	.08	.06	.02	.01	.13	2.34		
MEAN P 3/		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		
57 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.12	2-24	.11	2-24	.18	2-24	.39	2-24	.51	2-24	.51	2-24	.51	2-24	.51
MAXIMUMS FOR PERIOD OF RECORD																
19 39 TO	6-12	5.97	6-12	1.37	6-12	1.48	6-28	1.51	1-21	1.84	1-21	2.33	1-21	2.33	3-4	2.66
19 65	1957		1957		1957		1957		1959		1959		1959		1964	
Notes: Watershed conditions: The corn year of a corn, wheat, meadow, meadow rotation; improved practice. 1/ Rain gage Y103. 2/ Precipitation and runoff records began Jan. 1939. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshockton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945,P.26.10-6. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.10-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.10-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO								WATERSHED 115		26.11	
						AREA — 1.61 ACRES											
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965 P <u>1</u> / Q	3.00 .02	3.87 .14	2.62 .00	3.12 .00	1.83 .00	1.41 .02	2.35 .00	4.27 .00	6.34 .01	3.74 .00	2.10 .00	.83 .00	35.48 .19				
STA AV 2/P (39-65) Q	2.83 .21	2.49 .23	3.48 .23	3.55 .13	3.78 .16	4.48 .42	4.19 .32	3.05 .17	2.60 .13	2.29 .03	2.44 .02	2.27 .05	37.45 2.10				
MEAN P <u>3</u> / 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	6-8	.06	2-25	.02	2-25	.03	2-25	.06	2-24	.07	2-24	.07	2-24	.07	2-24	.07	
MAXIMUMS FOR PERIOD OF RECORD																	
19 39 TO 19 65	6-12 1957	4.12	9-1 1950	1.33	9-1 1950	1.56	9-1 1950	1.58	9-1 1950	1.59	9-1 1950	1.59	3-3 1963	1.66	6-29 1941	2.85	
Notes: Watershed conditions: The corn year of a corn, wheat, meadow rotation; prevailing practice. <u>1</u> / Rain gage Y103. <u>2</u> / Precipitation and runoff records began Apr. 1939. <u>3</u> / Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshockton, Ohio.																	
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.11-6. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.11-1 AND 26.30-3.																	

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.10-1 above)

26.11-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 127 AREA — 1.65 ACRES								26.12		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	3.00 .11	3.87 2.06	2.62 .54	3.12 .08	1.83 .00	1.41 .00	2.35 .00	4.27 .00	6.34 .00	3.74 .34	2.10 .00	.83 .00	35.48 3.13			
STA AV 2/E (49-65) Q	3.30 .83	2.77 .72	3.43 .65	3.78 .39	3.24 .08	3.87 .30	4.35 .12	2.94 .07	2.63 .09	2.00 .02	2.51 .05	2.37 .29	37.19 3.61			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-11	.16	2-11	.10	2-11	.15	2-24	.36	2-24	.53	2-24	.67	2-24	.91	2-24	1.25
MAXIMUMS FOR PERIOD OF RECORD																
1949 TO 19 65	6-12 1957	3.12	9-1 1950	1.33	9-1 1950	1.48	6-12 1957	1.49	1-26 1952	1.97	1-26 1952	2.65	1-25 1952	2.82	1-25 1952	2.85
Notes: Watershed conditions: The corn year of a corn, wheat, meadow, meadow rotation; improved practice, minimum tillage. 1/ Rain gage Y103. 2/ Precipitation and runoff records began May 1949. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.12-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 26.12-1 and 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.12-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 109 AREA — 1.69 ACRES								26.13		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.67 .00	3.55 .10	2.40 .00	3.19 .00	1.96 .04	1.43 .01	2.31 .01	4.24 .06	6.31 .01	3.54 .00	1.96 .00	.82 .00	34.38 .23			
STA AV2/ (38-65)Q	2.66 .07	2.43 .17	3.45 .15	3.52 .05	3.80 .12	4.47 .30	4.28 .24	3.00 .17	2.63 .06	2.23 .01	2.36 T	2.15 .02	36.98 1.36			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-27	.46	8-27	.05	8-27	.05	2-24	.06E	2-24	.10E	2-24	.10E	2-24	.10E	2-24	.10E
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	5-17 1941	4.34E	6-29 1941	.82E	6-28 1940	1.09	3-4 1963	1.35	3-4 1963	1.92	3-4 1963	2.17	3-3 1963	2.55	3-1 1963	2.66
Notes: Watershed conditions: The corn year of a corn, wheat, meadow, meadow rotation; improved practice. 1/ Rain gage Y102. 2/ Precipitation and runoff records began Nov. 1938. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.13-4. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.13-1 and 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.12-1 above)  
26.13-1

MONTHLY PRECIPITATION AND RUNOFF (inches)							COSHOCKTON, OHIO WATERSHED 103 AREA—0.650 ACRES								26.14	
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P 1/	2.58	3.64	2.28	2.86	1.97	1.20	2.37	3.86	5.98	3.38	1.72	.55	32.39		
	Q	.11	.33	.02	.01	.00	.00	.00	.00	.00	.00	.00	.00	.47		
STA AV 2/P		2.65	2.31	3.34	3.36	3.57	4.24	4.08	2.92	2.59	2.14	2.29	2.12	35.61		
(39-65)	Q	.34	.38	.64	.29	.15	.41	.28	.14	.15	.03	.03	.10	2.94		
MEAN P 3/		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		
57 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-11	.07	2-11	.04	2-11	.06	2-24	.13	2-24	.15	2-24	.15	2-24	.15	2-7	.18
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO	7-23	4.72	9-1	1.95	9-1	2.60	9-1	2.62	3-4	2.82	3-4	3.07	3-3	3.50	3-1	4.15
1965	1940		1950		1950		1950		1963		1963		1963		1963	
NOTES: Watershed conditions: Second year meadow of a meadow, corn, wheat, meadow rotation; improved practice. 1/ Rain gage 107. 2/ Precipitation and runoff records began Apr. 1939. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshockton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.14-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.14-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.14-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 110 AREA — 1.27 ACRES									26.15
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965 P 1/ Q	2.58 .00	3.64 .10	2.28 .00	2.86 .00	1.97 .00	1.20 .00	2.37 .00	3.86 .00	5.98 .00	3.38 .00	1.72 .00	.55 .00	32.39 .10		
STA AV 2/P (39-65) Q	2.65 .24	2.31 .25	3.34 .41	3.36 .16	3.57 .13	4.24 .37	4.08 .28	2.92 .12	2.59 .15	2.14 .04	2.29 .02	2.12 .10	35.61 2.27		
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-11	.03	2-24	.02	2-24	.03	2-24	.06	2-24	.08	2-24	.08	2-24	.08	2-24	.08

MAXIMUMS FOR PERIOD OF RECORD																
1939 TO	7-28	4.44	9-1	2.24	9-1	3.16	9-1	3.19	9-1	3.19	9-1	3.20	3-3	4.12	3-1	5.05
1965	1950		1950		1950		1950		1950		1950		1963		1963	

NOTES: Watershed conditions: Second year meadow, of a meadow, corn, wheat, meadow rotation; prevailing practice.  
1/ Rain gage 107. 2/ Precipitation and runoff records began Apr. 1939. 3/ Mean P based on 57-yr. (1909-65)  
U. S. Weather Bureau record period at Coshockton, Ohio

NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.14-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.15-1 AND 26.30-3.																
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.14-1 above)  
26.15-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO		WATERSHED 113 AREA — 1.45 ACRES		26.16						
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/	2.78	3.53	2.11	3.00	1.57	1.51	2.41	4.06	5.90	3.55	1.83	.74	32.99			
Q	.00	.15	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.16			
STA AV2/P	2.71	2.39	3.38	3.37	3.79	4.36	3.96	3.01	2.67	2.22	2.36	2.21	36.43			
(39-65) Q	.24	.40	.32	.16	.12	.37	.15	.18	.08	.04	.02	.06	2.14			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.04	2-25	.03	2-25	.05	2-25	.10	2-24	.12	2-24	.12	2-24	.12	2-24	.12
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-12 1957	3.77	9-1 1950	1.03	4-25 1961	1.20	6-28 1957	1.35	3-4 1963	1.50	3-4 1963	1.70	3-3 1963	2.00	3-1 1963	2.69
NOTES: Watershed conditions: First year meadow, of a meadow, meadow, corn, wheat rotation; improved practice. 1/ Rain gage 109. 2/ Precipitation and runoff records began Sept. 1939. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.16-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.16-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.16-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 118 AREA — 1.96 ACRES 26.17										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.64 .06	3.61 .41	2.50 .21	2.94 .12	1.60 .00	1.39 .00	2.53 .00	4.09 .00	5.90 .00	3.52 .05	1.84 .00	.77 .00	33.33 .85			
STA AV 2/P (40-65) Q	2.82 .28	2.47 .33	3.52 .52	3.44 .23	3.75 .12	4.31 .42	4.05 .15	3.03 .25	2.79 .14	2.15 .01	2.48 .04	2.26 .08	37.07 2.57			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.03	2-25	.03	2-25	.05	2-24	.11	2-24	.18	2-24	.20	2-24	.20	2-7	.20
MAXIMUMS FOR PERIOD OF RECORD																
1940 TO 1965	6-12 1957	3.11	9-1 1950	1.30	9-1 1950	1.59	9-1 1950	1.60	9-1 1950	1.60	3-9 1964	1.90	3-9 1964	2.41	3-4 1964	3.43
Notes: Watershed conditions: First year meadow of a meadow, meadow, corn, wheat rotation; prevailing practice. 1/ Rain gage 108. 2/ Precipitation and runoff records began Jan. 1940. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.17-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.17-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.16-1 above)  
26.17-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCOTON, OHIO WATERSHED 111 AREA — 1.18 ACRES								26.18		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.78 .07	3.53 .32	2.11 .08	3.00 .01	1.57 .00	1.51 .00	2.41 .00	4.06 .00	5.90 .00	3.55 .00	1.83 .00	.74 .00	32.99 .48			
STA AV 2/P (39-65) Q	2.71 .50	2.39 .59	3.38 .62	3.37 .31	3.79 .15	4.36 .35	3.96 .10	3.01 .05	2.67 .09	2.22 .03	2.36 .02	2.21 .19	36.43 3.00			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.08	2-24	.08	2-24	.09	2-11	.12	2-11	.12	2-11	.12	2-11	.12	2-9	.22
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-12 1957	3.83	6-12 1957	1.33	6-12 1957	1.42	6-28 1957	1.71	1-21 1959	2.03	1-26 1952	2.60	1-25 1952	2.61	1-19 1952	3.08
Notes: Watershed conditions: First year meadow of a meadow, meadow, corn, wheat rotation. 1/ Rain gage 109. 2/ Precipitation and runoff records began Sept. 1939. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocoton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.18-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.18-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.18-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCOTON, OHIO WATERSHED 121 AREA — 1.42 ACRES								26.19		
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.28 .08	3.48 .35	2.11 .05	2.75 .03	1.83 .00	1.23 .00	2.00 .00	3.95 .00	5.86 .00	3.24 .00	1.70 .00	.55 .00	30.98 .51			
STA AV 2/P (39-65) Q	2.68 .20	2.28 .21	3.26 .33	3.27 .18	3.63 .06	4.32 .25	4.26 .20	2.94 .14	2.65 .08	2.14 .02	2.26 .01	2.10 .03	35.79 1.71			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	4-12	.16	2-11	.05	2-11	.06	2-11	.11	2-11	.12	2-11	.12	2-11	.12	2-7	.25
MAXIMUMS FOR PERIOD OF RECORD																
1939 to 1965	8-23 1944	7.82	9-1 1950	1.32	9-1 1950	1.39	9-1 1950	1.39	9-1 1950	1.39	9-1 1950	1.39	3-3 1963	1.66	3-1 1963	1.87
Notes: Watershed conditions: The wheat year of a wheat, meadow, meadow, corn rotation; improved practice. 1/ Rain gage 113. 2/ Precipitation and runoff records began Apr. 1939. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocoton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.20-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.19-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.18-1 above)  
26.19-1

MONTHLY PRECIPITATION AND RUNOFF (inches)							COSHOCKTON, OHIO WATERSHED 106 AREA — 1.56 ACRES							26.20		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P 1/ Q	2.28 .09	3.48 .07	2.11 .01	2.75 .02	1.83 .00	1.23 .00	2.00 .00	3.95 .00	5.86 .01	3.24 .05	1.70 .05	.55 .00	30.98 .25		
STA AV 2/P (39-65) Q		2.68 .24	2.28 .26	3.26 .28	3.27 .14	3.63 .11	4.32 .33	4.26 .31	2.94 .24	2.65 .18	2.14 .02	2.26 .03	2.10 .09	35.79 2.23		
MEAN P 3/ 57 YR		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	4-12	.10	2-11	.04	2-11	.04	2-11	.05	2-11	.05	2-11	.05	2-11	.05	2-9	.06
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	8-23 1944	7.63	9-1 1950	1.26	9-1 1950	1.38	9-1 1950	1.39	2-23 1962	1.41	2-23 1962	1.41	2-23 1962	2.00	2-19 1962	2.44
Notes: Watershed conditions: The wheat year of a wheat, meadow, meadow, corn rotation; prevailing practice. 1/ Rain gage 113. 2/ Precipitation and runoff records began Apr. 1939. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshockton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.20-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.20-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.20-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 188 AREA — 2.05 ACRES								26.21		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P1/ Q	2.58 .00	3.57 .00	2.35 .00	2.90 .00	1.89 .00	1.43 .00	2.44 .00	3.98 .00	5.68 .00	3.40 .00	1.85 .00	.71 .00	32.78 .00		
STA AV 2/P (39-65) Q		2.59 .18	2.29 .18	3.23 .27	3.25 .11	3.79 .11	4.21 .30	4.04 .10	3.03 .19	2.65 .15	2.14 .06	2.27 .02	2.10 .03	35.59 1.70		
MEAN P 3/ 57 YR		3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965		.00		.00		.00		.00		.00		.00		.00		.00
MAXIMUMS FOR PERIOD OF RECORD																
1939 to 1965	8-23 1944	3.06	9-1 1950	1.84	9-1 1950	2.07	9-1 1950	2.08	9-1 1950	2.08	9-1 1950	2.08	3-3 1963	2.34	3-1 1963	2.43
Notes: Watershed conditions: The wheat year of a wheat, meadow, meadow, corn rotation; improved practice. Plow 16 in. deep, minimum tillage in 1964. 1/ Rain gage 115. 2/ Precipitation and runoff records began Sept. 1939. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshockton, Ohio.																
NO RUNOFF, THEREFORE NO SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945 P. 26.21-4. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.21-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.20-1 above)

26.21-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 185 AREA — 7.40 ACRES								26.23		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.68 .08	3.67 .32	2.29 .12	2.83 .01	1.91 .00	1.31 .00	2.29 .00	3.94 .00	5.80 .00	3.30 .00	1.79 .00	.64 .00	32.45 .53			
STA AV 2/P (39-65) Q	2.71 .14	2.29 .24	3.30 .36	3.29 .15	3.70 .12	4.09 .31	3.98 .19	2.99 .13	2.63 .15	2.11 .05	2.27 .02	2.12 .05	35.48 1.91			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-11	.04	2-25	.02	2-25	.04	2-24	.08	2-24	.12	2-24	.13	2-24	.13	2-7	.18
MAXIMUMS FOR PERIOD OF RECORD																
19 39 TO 1965	6-16 1946	3.35	9-1 1950	1.91	9-1 1950	2.31	9-1 1950	2.32	3-4 1963	2.42	3-4 1963	2.88	3-3 1963	3.55	3-1 1963	4.11
NOTES: Watershed conditions: Wheat and second year meadow strips of a corn, wheat, meadow, meadow rotation; improved practice with contour strips. 1/ Rain gage 128. 2/ Precipitation and runoff records began Sept. 1939. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.23-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070 PP. 26.23-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.23-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO						WATERSHED 187 AREA — 7.20 ACRES		26.24		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.62 .30	3.53 .72	2.44 .30	2.94 .02	1.77 .00	1.38 .00	2.55 .00	3.92 .00	5.78 T	3.36 T	1.85 .00	.90 .00	33.04 1.34			
STA AV 2/P (41-65) Q	2.73 .90	2.34 .71	3.37 1.16	3.31 .60	3.78 .23	4.26 .36	4.17 .13	2.96 .07	2.83 .12	2.19 .02	2.32 .03	2.15 .28	36.41 4.61			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.03	2-24	.02	2-24	.04	2-24	.09	2-24	.15	2-24	.20	2-24	.23	2-24	.40
MAXIMUMS FOR PERIOD OF RECORD																
19 41 to 19 65	6-12 1957	2.75	9-1 1950	1.37	9-1 1950	1.54	9-1 1950	1.57	3-4 1963	2.01	3-4 1963	2.35	3-4 1963	2.95	1-20 1959	3.36
NOTES: Watershed conditions: First year meadow and corn strips of a corn, wheat, meadow, meadow rotation; improved practice with contour strips. 1/ Rain gage 116. 2/ Precipitation and runoff records began Jan. 1941. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.24-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.24-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.23-1 above)  
26.24-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 192 AREA — 7.59 ACRES								26.25		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.68 .15	3.67 .63	2.29 .18	2.83 .02	1.91 .00	1.31 .00	2.29 .00	3.94 .00	5.80 .00	3.30 .01	1.79 .00	.64 .00	32.45 .99			
STA AV 2/P (39-65) Q	2.71 .46	2.29 .55	3.30 .65	3.29 .25	3.70 .16	4.09 .33	3.98 .17	2.99 .08	2.63 .12	2.11 .02	2.27 .04	2.12 .17	35.48 3.00			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-11	.10	2-11	.06	2-11	.07	2-24	.11	2-24	.20	2-24	.22	2-24	.25	2-7	.33
MAXIMUMS FOR PERIOD OF RECORD																
19 40 TO 19 65	6-16 1946	4.60	6-16 1946	1.85	9-1 1950	2.02	9-1 1950	2.04	3-4 1963	2.11	3-4 1963	2.53	3-4 1963	3.85	3-3 1963	4.72
NOTES: Watershed conditions: Second year meadow, of a meadow, corn, wheat, meadow rotation; prevailing practice. 1/ Rain gage 128. 2/ Precipitation and runoff records began Sept. 1939. 3/ Mean P based on 57-yr. (1909-62) U. S. Weather Bureau record period at Coshocton, Ohio																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.23-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.25-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.25-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 172 AREA — 43.6 ACRES								26.26		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.74 .58	3.40 1.97	2.45 1.80	2.82 1.46	2.03 .19	1.22 T	2.24 T	3.95 T	6.06 .02	3.60 .12	1.82 .11	.65 .09	32.98 6.34			
STA AV 2/P (39-65) Q	2.74 1.23	2.42 1.52	3.39 2.56	3.32 2.31	3.68 1.38	4.21 .82	4.18 .29	2.93 .10	2.56 .12	2.21 .12	2.32 .24	2.15 .55	36.11 11.24			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.05	2-24	.05	2-24	.09	2-24	.26	2-24	.44	2-24	.58	2-24	.70	2-24	1.05
MAXIMUMS FOR PERIOD OF RECORD																
19 39 TO 19 65	6-12 1957	2.64E	6-12 1957	1.07E	6-12 1957	1.23E	6-12 1957	1.38E	1-26 1952	1.48	1-26 1952	1.95	1-26 1952	2.34	4-3 1957	3.22
NOTES: Watershed conditions: Cover of 33% uneven age hardwoods, 67% pines planted in 1939(revised 5-20-66) 1/Rain gage 103. 2/ Precipitation and runoff records began Feb. 1939. 3/ Mean P based on 57-yr. (1909-65) U.S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.26-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.26-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.25-1 above)  
26.26-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO						WATERSHED 169 AREA—29.0 ACRES		26.27		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.28 .61	3.48 1.40	2.11 .99	2.75 .60	1.83 .10	1.23 .01	2.00 .01	3.95 .03	5.86 .28	3.24 .18	1.70 .05	.55 .01	30.98 4.27			
STA AV 2/P (40-65) Q	2.68 .89	2.28 .97	3.26 1.44	3.26 .98	3.71 .48	4.22 .52	4.16 .26	3.01 .17	2.71 .17	2.05 .04	2.33 .10	2.13 .35	35.80 6.37			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.15E	2-24	.10E	2-24	.20E	2-24	.30E	2-24	.38E	2-24	.42E	2-23	.45E	2-7	.72
MAXIMUMS FOR PERIOD OF RECORD																
19 40 TO 1965	6-12 1957	2.59	9-1 1950	1.70	9-1 1950	2.00	9-1 1950	2.03	9-1 1950	2.04	1-21 1959	2.12E	1-21 1959	2.37E	1-20 1959	2.68E
NOTES: Watershed conditions: Cover of 6% hardwoods, 6% reforested, 48% grassland, 34% cultivated, 6% miscellaneous, contour strip cropped. 1/ Rain gage 113. 2/ Precipitation and runoff records began Jan. 1940. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshockton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.27-6. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.27-1 AND 26.30-3																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.27-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO			WATERSHED 177 AREA—75.6 ACRES			26.28				
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.74 1.22	3.40 2.24	2.45 1.66	2.82 .91	2.03 .13	1.22 .01	2.24 T	3.95 T	6.06 .10	3.60 .37	1.82 .18	.65 .08	32.98 6.90			
STA AV 2/P (40-65) Q	2.74 1.12	2.36 1.16	3.39 1.80	3.31 1.21	3.77 .57	4.14 .59	4.11 .26	2.99 .13	2.62 .14	2.09 .06	2.38 .16	2.17 .52	36.07 7.72			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-11	.07	2-11	.05	2-25	.08	2-24	.21	2-24	.35	2-24	.43	2-24	.59	2-7	1.08
MAXIMUMS FOR PERIOD OF RECORD																
19 40 TO 19 65	6-12 1957	3.14	6-12 1957	1.33	9-1 1950	1.55	9-1 1950	1.63	3-4 1963	1.77	3-4 1963	2.06	3-4 1963	2.48	3-4 1964	3.22
NOTES: Watershed conditions: Cover of 4% hardwoods, 6% reforested, 67% grassland, 17% cultivated, 6% miscellaneous, contour strip cropped. 1/ Rain gage 103. 2/ Precipitation and runoff records began Jan. 1940. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshockton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.28-7. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.28-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.27-1 above)  
26.28-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 196 AREA — 303 ACRES								26.30		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.63	3.57	2.47	2.94	1.68	1.38	2.54	4.00	5.84	3.44	1.84	.84	33.17			
STA AV 2/P	1.64	2.94	2.43	1.70	.39	.10	.06	.07	.26	.64	.36	.23	10.82			
(37-65) Q	2.74	2.32	3.60	3.45	3.73	4.52	4.19	2.95	2.66	2.24	2.39	2.23	37.23			
	1.80	1.96	2.94	2.41	1.41	1.15	.59	.30	.26	.22	.40	.94	14.38			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.08	2-24	.08	2-24	.14	2-24	.34	2-24	.56	2-24	.73	2-24	.86	2-7	1.45
MAXIMUMS FOR PERIOD OF RECORD																
19 37 to	6-12	3.72	6-12	1.31E	6-12	1.44E	6-16	1.63	1-21	2.06	1-21	2.92	1-20	3.21	3-4	4.63
19 65	1957		1957		1957		1946		1959		1959		1959		1964	
NOTES: Watershed conditions: Cover of 27% woodland, 50% grassland, 19% cultivated, 4% miscellaneous, prevailing practice. 1/ Arithmetic average rain gages 108 and 116. 2/ Precipitation and runoff records began May 1937. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.30-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.30-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.30-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 10 AREA — 122 ACRES								26.31		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.87 1.20	3.80 2.18	2.70 1.54	2.90 1.08	1.68 .17	.76 .01	2.77 .02	4.39 .03	5.79 .10	3.80 .28	2.14 .36	.76 .17	34.36 7.14			
STA AV2/P (39-65)	2.83 1.20	2.58 1.38	3.52 1.91	3.48 1.57	3.62 .84	4.27 .72	4.16 .37	2.95 .17	2.54 .12	2.28 .16	2.44 .25	2.32 .61	36.99 9.30			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.05	2-24	.05	2-24	.09	2-24	.23	2-24	.39	2-24	.53	2-24	.66	2-7	1.04
MAXIMUMS FOR PERIOD OF RECORD																
19 39 to 1965	6-28 1957	1.76E	6-28 1957	.98E	6-28 1957	1.39E	6-28 1957	1.80E	6-28 1957	1.99E	6-28 1957	2.14E	6-28 1957	2.25E	3-1 1963	2.94E
NOTES: Watershed conditions: Cover of 21% cropland, 48% grassland, 25% woodland, 6% miscellaneous, conservation practice. 1/ Rain gage 27. 2/ Precipitation and runoff records began Jan. 1939. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.31-4. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.31-1 AND 26.37-2.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.30-1 above)  
26.31-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 5 AREA — 349 ACRES								26.32		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.94 1.32	3.77 2.21	2.68 1.96	2.85 1.32	2.04 .34	.56 .03	2.42 .02	4.29 .03	5.70 .16	4.00 .63	2.39 .46	.77 .26	34.41 8.74			
STA AV 2/P (40-65) Q	2.83 1.45	2.52 1.52	3.50 2.28	3.46 1.83	3.68 1.07	4.15 .82	4.16 .45	3.00 .21	2.62 .13	2.23 .19	2.51 .32	2.35 .72	37.01 10.99			
MEAN P 3/ 57-yr	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-24	.05	2-24	.05	2-24	.08	2-24	.20	2-24	.34	2-24	.46	2-24	.57	2-7	1.03
MAXIMUMS FOR PERIOD OF RECORD																
1940 TO 1965	6-28 1957	1.09	6-28 1957	.77	6-28 1957	1.04	6-28 1957	1.38	4/ 1.58	1-21 1959	2.31	1-20 1959	2.64	1-20 1959	3.04	
NOTES: Watershed conditions: Cover of 20% cropland, 54% grassland, 23% woodland, 3% miscellaneous, improved practice. 1/ Rain gage 91. 2/ Precipitation and runoff records began Jan. 1940. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio. 4/ June 28, 1957, and March 4, 1963.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.32-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.32-1 AND 26.37-2.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.32-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 92 AREA — 920 ACRES (1.44 SQ. MILES)								26.33		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.94 1.39	3.77 2.41	2.68 2.03	2.85 1.31	2.04 .38	.56 .04	2.42 .02	4.29 .03	5.70 .15	4.00 .71	2.39 .55	.77 .28	34.41 9.30			
STA AV 2/P (39-65) Q	2.82 1.56	2.58 1.74	3.51 2.48	3.48 2.00	3.60 1.11	4.22 .88	4.20 .44	2.99 .19	2.56 .13	2.31 .21	2.44 .37	2.31 .82	37.02 11.93			
MEAN P 3/ 57-YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.06	2-25	.05	2-25	.10	2-25	.24	2-24	.40	2-24	.52	2-24	.65	2-7	1.16
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-28 1957	.62	6-28 1957	.52	6-28 1957	.82	6-28 1957	1.24	4/ 1.60	1-21 1959	2.41	4/ 2.71	3-4 1964	3.96		
NOTES: Watershed conditions: Cover of 16% cropland, 59% grassland, 21% woodland, 4% miscellaneous, improved practice. 1/ Rain gage 91. 2/ Precipitation and runoff records began Jan. 1939. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio. 4/ Jan. 21, 1959 and Mar. 4, 1963.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.32-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.33-1 AND 26.37-2.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.32-1 above)  
26.33-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 94 AREA — 1,520 ACRES (2.37 SQ. MILES)								26.34		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.90 1.43	3.78 2.55	2.69 2.16	2.88 1.47	1.86 .45	.66 .07	2.60 .03	4.34 .05	5.74 .21	3.90 .73	2.26 .58	.76 .32	34.37 10.05			
STA AV 2/P (39-65) Q	2.82 1.57	2.58 1.72	3.51 2.50	3.47 1.99	3.61 1.12	4.22 .93	4.20 .47	2.97 .23	2.56 .14	2.30 .21	2.43 .36	2.31 .78	36.98 12.02			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.06	2-25	.05	2-25	.10	2-24	.24	2-24	.40	2-24	.53	2-24	.68	2-7	1.21
MAXIMUMS FOR PERIOD OF RECORD																
19 39 TO 19 65	6-28 1957	.92	6-28 1957	.77	6-28 1957	1.22	6-28 1957	1.79	3-4 1963	2.14	1-21 1959	2.95	1-20 1959	3.27	3-4 1963	3.95
NOTES: Watershed conditions: Cover of 15% cropland, 57% grassland, 24% woodland, 4% miscellaneous, improved practice. 1/ Arithmetic average rain gages 27 and 91. 2/ Precipitation and runoff records began Jan. 1939. 3/ Mean P based on 57-yr (1909-65) U. S. Weather Bureau record period at Coshockton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.34-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.34-1, AND 26.37-2.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.34-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO WATERSHED 95 AREA — 2,570 ACRES (4.02 SQ. MILES)								26.35		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.90 1.34	3.78 2.30	2.69 1.99	2.88 1.36	1.86 .40	.66 .06	2.60 .02	4.34 .03	5.74 .21	3.90 .89	2.26 .67	.76 .36	34.37 9.63			
STA AV 2/P (39-65) Q	2.83 1.53	2.58 1.70	3.52 2.50	3.48 2.01	3.61 1.12	4.26 .88	4.15 .44	2.95 .20	2.54 .13	2.29 .20	2.44 .36	2.32 .78	36.97 11.85			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.05	2-25	.04	2-25	.08	2-24	.21	2-24	.36	2-24	.49	2-24	.62	2-7	1.10
MAXIMUMS FOR PERIOD OF RECORD																
19 39 TO 19 65	6-28 1957	.61	6-28 1957	.56	6-28 1957	.95	3-4 1963	1.58	3-4 1963	2.32	3-4 1963	2.78	3-4 1963	3.49	3-2 1963	4.24
NOTES: Watershed conditions: Cover of 15% cropland, 55% grassland, 26% woodland, 4% miscellaneous, improved practice. 1/ Arithmetic average rain gages 27 and 91. 2/ Precipitation and runoff records began Jan. 1939. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.34-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.35-1 AND 26.37-2.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(see 26.34-1 above)  
26.35-1



MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO AREA—4,580 ACRES (7.16 SQ. MILES)				WATERSHED 97 26.36						
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	2.82 1.28	3.71 2.29	2.63 1.97	2.88 1.32	1.88 .38	.86 .05	2.59 .01	4.01 .02	5.72 .15	3.71 .74	1.95 .47	.69 .27	33.45 8.95			
STA AV 2/P (37-65) Q	3.03 1.80	2.52 1.68	3.52 2.49	3.51 2.07	3.67 1.15	4.38 .97	4.17 .50	2.90 .22	2.50 .13	2.27 .18	2.39 .35	2.31 .81	37.17 12.35			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.05	2-25	.05	2-25	.09	2-24	.22	2-24	.37	2-24	.50	2-24	.63	2-24	1.14
MAXIMUMS FOR PERIOD OF RECORD																
19 37 TO 19 65	6-28 1957	.72	6-28 1957	.66	6-28 1957	1.15	1-24 1937	1.89	1-21 1959	2.32	1-21 1959	3.24	1-20 1959	3.54	1-18 1937	6.77
NOTES: Watershed conditions: Cover of 18% cropland, 50% grassland, 28% woodland, 4% miscellaneous, improved practice. 1/ Arithmetic average rain gages 27, 54, 56, and 91. 2/ Precipitation and runoff records began Jan. 1937. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.34-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.36-1 AND 26.37-2.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.36-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCKTON, OHIO WATERSHED 994 AREA —17,400 ACRES (27.2 SQ. MILES)								26.37	
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965 P 1/ Q	2.81 1.72	3.73 2.71	2.66 2.49	2.82 1.71	1.85 .48	.76 .09	2.64 .04	4.05 .05	5.53 .18	3.73 .87	1.92 .53	.69 .32	33.19 11.19		
STA AV 2/P (36-65) Q	3.03 1.96	2.52 1.90	3.52 2.62	3.51 2.17	3.66 1.25	4.37 1.03	4.19 .57	2.90 .26	2.50 .16	2.32 .23	2.41 .42	2.33 .87	37.26 13.44		
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53		

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.04	2-25	.04	2-25	.07	2-25	.21	2-24	.37	2-25	.51	2-25	.66	2-7	1.34

MAXIMUMS FOR PERIOD OF RECORD																
19 36 TO 19 65	6-28 1957	.44	6-28 1957	.43	6-28 1957	.81	6-28 1957	1.71	6-28 1957	2.16	1-21 1959	3.06	1-21 1959	3.45	3-4 1964	4.79

NOTES: Watershed conditions: Cover of 15% cropland, 55% grassland, 26% woodland, 4% miscellaneous, generally under improved practice. 1/ Arithmetic average rain gages 27, 54, 56, 91, MC4, and MC6. 2/ Runoff data furnished by U.S. Geologic Survey, New Philadelphia, Ohio. 3/ Precipitation and runoff records began Oct. 1936. 4/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.

FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 26.37-5. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.37-1 AND 26.37-2.																
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Cooperative Research Project of USDA, U. S. Geological Survey, and Ohio Agriculture Research and Development Center  
(See 26.36-1 above)

26 37-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO								WATERSHED 174		26.38	
						AREA — 52.8 ACRES											
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965 P1/ Q	2.58 1.13	3.64 2.22	2.28 1.48	2.86 1.00	1.97 .16	1.20 .01	2.37 .01	3.86 .04	5.98 .28	3.38 .53	1.72 .22	.55 .08	32.39 7.16				
STA AV 2/P (60-65) Q	2.17 .57	2.78 1.22	4.41 2.95	3.77 1.83	2.42 .23	3.24 .41	2.95 .07	3.24 .10	2.33 .06	1.77 .10	2.18 .14	2.08 .18	33.34 7.86				
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	2-24	.08	2-24	.07	2-24	.13	2-24	.35	2-24	.56	2-24	.68	2-24	.79	2-7	1.13	
MAXIMUMS FOR PERIOD OF RECORD																	
19 61 to 19 65	4-25 1961	1.03	4-25 1961	.82	4-25 1961	1.11	4-25 1961	1.33	3-4 1963	1.61	3-9 1964	1.99	3-9 1964	2.54	3-4 1964	3.71	
NOTES: Watershed conditions: Cover of 15% hardwoods, 2% reforested, 67% grassland, 16% miscellaneous, prevailing practice on 86% of area. 1/ Rain gage 107. 2/ Precipitation and runoff records began June 1960. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																	
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 26.30-4. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, PP. 26.38-1, AND 26.30-3.																	

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

26.38-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COSHOCTON, OHIO		WATERSHED 194 AREA — 187 ACRES		26.39						
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2.58 1.62	3.64 2.95	2.28 2.83	2.86 1.72	1.97 .70	1.20 .21	2.37 .06	3.86 .06	5.98 .31	3.38 .71	1.72 .46	.55 .32	32.39 11.95			
STA AV 2/P (60-65) Q	2.29 1.15	2.85 1.66	3.84 3.79	3.40 2.48	2.52 .82	3.24 .67	2.95 .18	3.24 .14	2.33 .11	1.77 .18	2.18 .26	2.08 .35	32.69 11.79			
MEAN P 3/ 57 YR	3.25	2.60	3.60	3.74	3.75	4.33	4.16	3.77	3.13	2.56	2.82	2.82	40.53			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	2-25	.07	2-25	.06	2-25	.12	2-24	.30	2-24	.48	2-24	.65	2-24	.79	2-24	1.45
MAXIMUMS FOR PERIOD OF RECORD																
19 60 TO 19 65	4-25 1961	.87	4-25 1961	.68	4-25 1961	.93	4-25 1961	1.12	3-9 1964	1.32	3-9 1964	1.91	3-9 1964	2.60	3-4 1964	3.89
NOTES: Watershed conditions: Cover of 21% hardwoods, 2% reforested, 58% grassland, 11% cultivated, 8% miscellaneous, prevailing practice. 1/ Rain gage 107. 2/ Precipitation and runoff records began Jan. 1960. 3/ Mean P based on 57-yr. (1909-65) U. S. Weather Bureau record period at Coshocton, Ohio.																
NO SUITABLE SELECTED RUNOFF EVENT TO REPORT. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 26.30-4. FOR GEOLOGY DESCRIPTION AND MAP, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 26.39-1 AND 26.30-3.																

Cooperative Research Project of USDA and Ohio Agricultural Research and Development Center

(See 26.38-1 above)  
26.39-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						COLBY, WISCONSIN WATERSHED W-1 AREA — 345 ACRES								29.01		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1/</sup> Q <sup>2/</sup>	.46 NR	.52 NR	1.93 NR	3.04 .79	4.65 .90	4.61 .79	5.25 .28	4.03 .40	4.92 1.25	.94 .04	1.29 NR	2.32 NR	33.96 3/ 4.45			
STA AV <sup>2/</sup> P (49-65) O	.83 NR	.80 NR	1.50 NR	2.34 .25	3.31 .67	3.89 .28	4.01 .22	3.74 .12	3.18 .30	1.69 .14	1.47 .00	.89 .01	27.65 3/ 1.99			
MEAN P <sup>4/</sup> 76 YR	1.03	1.10	1.75	2.60	3.97	4.85	3.45	3.69	3.90	2.49	1.72	1.22	31.77			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	4-26	.13	4-26	.13	4-26	.23	4-26	.45	4-26	.55	4-26	.61	4-25	.73	5-25	.90
MAXIMUMS FOR PERIOD OF RECORD																
19 49 TO 19 65	6-4 1958	.57	6-4 1958	.45	6-4 1958	.59	6-4 1958	1.10	6-4 1958	1.21	6-4 1958	1.25	5-9 1960	1.51	5-4 1960	3.63
Notes: Watershed conditions: 13% permanent pasture, 11% ungrazed woods, 3% roads and building sites, 73% 3-yr rotation of corn, small grain, hay. 1/ Precipitation Apr. 23 through Oct. 20 is arithmetic average of 3 recording rain gages. Rest of year, only 1 standard rain gage. 2/ Precipitation and runoff records began May 1949. Runoff station not in operation during months showing NR. 3/ Totals for period of Apr. 22 through Oct. only. 4/ Mean P based on 76-yr. (1890-1965) U.S. Weather Bureau record period at Neillsville, Wis.																
NO SELECTED RUNOFF EVENT REPORTED. FOR MAP OF WATERSHED, SEE SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, USDA, ARS, JAN. 1960, P. 29.1-5.																



MONTHLY PRECIPITATION AND RUNOFF (inches)						FENNIMORE, WISCONSIN WATERSHED W-1 AREA—330 ACRES								31.01
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sub>1</sub>	1.25	.70	2/2.75	4.37	2.38	2.83	2.30	7.83	7.45	1.60	2.21	2.05	37.72	
Q	.29	1.50	1.91	.61	.03	.01	T	.05	.21	.02	.03	.06	4.72	
STA AV <sub>3</sub> /P	.88	.91	1.87	3.10	3.74	4.70	4.11	4.03	3.68	2.23	2.06	1.09	32.40	
(38-65) Q	.34	.47	.98	.30	.28	.44	.41	.35	.26	.23	.21	.20	4.47	
MEAN P 75 YR <sub>4</sub>	1.16	1.12	2.02	3.01	3.99	4.39	3.76	3.49	3.85	2.34	1.99	1.29	32.41	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-9	.19	9-9	.10	9-9	.13	2-28	.26	2-28	.38	2-28	.60	2-28	.81	2-27	1.90

MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965	8-6 1951	1.69	8-6 1951	1.13	8-6 1951	1.53	7-15 1950	2.61	7-15 1950	2.69	7-15 1950	2.69	7-15 1950	2.69	7-15 1950	2.86

Notes: Watershed conditions: 26.4% corn, 10.3% grain, 16.6% hay, 30.9% pasture, 7.2% roads and buildings, 8.6% soil bank (idle). 1/ Precipitation is arithmetic average of 9 recording rain gages from Apr. 8 to Nov. 26; average of R-1, R-6, and R-8 rest of year. 2/ Snow water equivalent on Mar. 25 was 1.73 in. and had completely melted by Apr. 7. 3/ Precipitation records began June 1938. Runoff records began July 1938. 4/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Lancaster, Wis.

NO SELECTED RUNOFF EVENT REPORTED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 31.1-5.

1965 DAILY AIR TEMPERATURE (degrees F)												FENNIMORE, WISCONSIN WATERSHED W-1 31.01												
DAY	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	34	31	4	-14	46	33	38	30	83	48	78	61	78	50	78	57	67	47	61	46	58	32	47	23
2	33	14	-2	-20	38	31	40	26	84	53	64	57	79	59	77	49	78	45	72	46	64	36	47	26
3	33	9	3	-16	31	23	40	26	82	53	68	53	80	55	76	57	75	55	56	36	66	37	37	28
4	34	23	20e	-14	32	27	42	32	64	48	77	53	85	60	83	59	67	54	58	34	50e	26	33	25
5	35	26	34	20	37	30	44	36	75	49	77	60	76	58	91	60	64	47	55	36	64	40e	44	30
6	37	28	35	30	32	26	48	38	80	65	74	58	71	47	78	66	61	50	60	50	60	50	32	16
7	41	37	40	22	40	24	57	34	80	63	79	54	80	58	80	66	70	59	53	49	56	50	42	19
8	40	2	28	7	38	21	41	32	75	63	74	54	86	64	66	60	62	58	50	46	54	30	36	25
9	8	-2	36	18	30	18	58	30	79	59	76	51	78	56	80	57	83	62	52	42	40	25	44	22
10	17	0	38	22	31	13	49	36	59	44	79	59	73	52	79	54	67	45	68	37	37	25	38	30
11	29	6	24	19	30	4	66	45	67	43	79	58	82	51	86	57	66	44	56	37	45	36	51	38
12	19	2	20	6	36	20	45	33	79	47	83	58	79	57	88	65	71	43	52	31	51	31	51	35
13	4	-11	22	0	37	20	56	31	74e	43e	74	44	88	68	92	69	75	57	60	31	37	19	35	27
14	4	-14	32	21	36	21	46	39	77	64e	76	48	79	60	90	67	65	53	66	41	35	15	28	26
15	16	2	32	7	36	24	45	36	77	58	76	45	82	53	88	65	58	47	68	40	46	32	25	20
16	20	-2	27	0	38	25	45	32	61	52	69	47	88	67	84	62	55	46	71	50	46	27	25	22
17	24	6	38	16	32	16	50	33	73	50	73	42	83	62	87	60	75	55	79	62	34	19	28	18
18	21	5	36	20	16	5	50	32	71	46	82	47	84	59	78	59	75	61	78	58	34	20	30	14
19	28	8	23	13	13	-1	62	29	72	42	82	49	77	58	73	53	78	67	73	54	42	24	30	10
20	24	9	45	21	18	-1	58	38	73	43	83	56	71	53	74	50	70	64	66	56	38	31	31	19
21	37	8	21	-2	14	-2	69	41	80	58	77	52	86	65	74	58	66	48	56	30e	46	30	31	12
22	36	19	7	-4	26	13	70	42	58	48	85	61	97	73	72	53	59	47	54	30e	51	26	40	27
23	23	18	8	2	24	5e	53	38	58	45	77	55	101	75	79	50	48	42	44	30	44	23	50	37
24	20	13	18	3	24	-3e	40	37	83	49	76	48	84	62	75	53	50e	38	46e	25	38	34	37	26
25	31	20	16	2	21	15	39	36	83	67	78	49	89	59	82	60	66	37	62	41	38	35	29	16
26	26	1	20	0	29	5	56	36	71	49	80	53	84	60	84	62	47	34	52	34	57	25	26	15
27	24	-6	50	17	32	8	60	37	49	33	89	62	84	54	72	50	51	37	54	31	25	15	25	3
28	4	-14	49	31	36	25	57	32	49e	33e	83	64	80	52	63	43	69	51	48e	26	23	14	29	4
29	0	-20			37	20	72	34	52	39	73	59	81	49	57	42	74	59	54	29	29	14	39	29
30	0	-18			41	16	80	46	69	35	74	54	82	54	61	52	68	46	65	43	24	15	56	37
31	5	-15			41	24			78	46			72	61	70	55			58	36				27
AV.	23	6	26	8	31	16	53	35	72	50	77	54	82	58	78	57	66	50	60	40	44	28	37	23
MEAN	14.4		17.0		23.8		43.7		60.5		65.4		70.2		67.5		58.0		49.7		36.1		29.7	
STA AV	24	9	28	12	37	21	55	34	67	46	76	56	81	59	79	58	70	49	61	40	42	26	28	14

NOTES: TEMPERATURE DATA TAKEN FROM HYDROTHERMOGRAPH CHARTS CHECKED WEEKLY WITH MAXIMUM AND MINIMUM THERMOMETERS  
STA AV IS A 26-YR AVERAGE (1940-65).

1965 DAILY PRECIPITATION (inches)						FENNIMORE, WISCONSIN WATERSHED W-1 31.01						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.23	.00	.25	.06	.00	.00	.00	.00	.00	.00	.00	.00
2	.02	.00	.61	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.14	.00	.00	.00	.18	.00	.00	.00	.00
4	.00	.00	.29	.03	.00	.04	.00	.00	.22	.00	.00	.00
5	.00	.00	.51	.38	.28	.92	.00	.39	.00	.00	.00	.00
6	.00	.05	.00	.06	.00	.23	.05	.00	1.09	.10	.00	.00
7	.00	.00	.00	.00	.10	.00	.00	.04	.93	.35	.00	T
8	.04	.00	.00	.58	.11	.02	.72	1.38	.14	.00	.00	.00
9	.00	.22	.00	.04	.00	.00	.32	.00	1.78	.00	.00	T
10	.00	.04	T	.73	.00	.00	.00	.00	.00	.00	.02	.08
11	.00	.28	.05	.19	.00	.00	.00	.00	.00	.00	.50	.67
12	T	.02	.00	.01	.00	.00	.00	.00	.00	.00	.75	.36
13	.00	.00	.07	.00	.00	.00	.05	.00	.05	.00	.00	.00
14	.05	.00	.00	.15	.00	.00	.00	.00	.41	.30	.00	.00
15	.00	.00	.04	T	.51	.00	.00	.00	.00	.00	.03	.00
16	.00	.00	.01	.00	.00	.00	.00	1.02	.00	.49	.00	.00
17	.00	.00	.77	.14	.00	.00	.00	.70	.24	.07	.00	.00
18	.00	.01	.00	.00	.08	.00	.00	.67	.06	.00	.05	.00
19	.00	.00	.02	.00	.00	.00	.00	.00	.68	.00	.00	.05
20	.00	.00	.00	.00	.00	.83	.00	.00	1.01	.07	.00	.02
21	T	.00	.06	.03	.00	.00	.00	.71	.52	.22	.00	.00
22	.25	.00	.04	.00	.17	.12	.00	.00	.00	.00	.00	.00
23	.29	.08	.02	.22	.04	.00	.00	.00	.00	.00	.00	.28
24	.00	.00	.00	.62	.12	.00	.00	.15	.00	.00	.16	.59
25	.08	.00	.00	.84	.00	.00	.00	.81	.00	.00	.00	.00
26	.08	.00	.00	.00	.97	.00	.13	.19	.00	.00	.70	.00
27	.00	.00	.00	.15	T	.62	.00	.00	.24	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
29	.00	.00	.00	.00	.00	.05	.00	.05	.06	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.63	1.54	.00	.00	.00	.00
31	.21	-----	.01	-----	.00	-----	.40	.00	-----	.00	-----	.00
TOTAL	1.25	.70	2.75	4.37	2.38	2.83	2.30	7.83	7.45	1.60	2.21	2.05
STAAV	.88	.91	1.87	3.10	3.74	4.70	4.11	4.03	3.68	2.23	2.06	1.09
NOTES: PRECIPITATION VALUES ARE THE ARITHMETIC AVERAGE OF 9 RECORDING GAGES FROM APR. 8 TO NOV. 26. REST OF YEAR FROM 3 GAGES, R-1, R-6, AND R-8. ALL PRECIPITATION FROM JAN. 14 TO MAR. 23 WAS SNOW.												
1965 MEAN DAILY DISCHARGE (cfs)						FENNIMORE, WISCONSIN WATERSHED W-1 31.01						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.000	.000	2.898	3.331	.015	.008	.000	.000	.007	.004	.008	.010
2	.000	.000	4.805	.737	.015	.006	.000	.000	.001	.004	.006	.010
3	.000	.000	.944	.542	.015	.006	.000	.000	.000	.004	.008	.010
4	.000	.000	.208	1.124	.015	.006	.000	.000	.000	.004	.010	.008
5	.000	.000	3.942	1.641	.015	.087	.000	.000	.000	.004	.010	.006
6	.133	.693	2.161	.337	.015	.011	.000	.000	.037	.004	.010	.006
7	3.339	3.471	3.114	.039	.012	.008	.000	.000	.383	.008	.010	.006
8	.535	.277	1.721	.072	.010	.006	.000	.062	.003	.010	.010	.006
9	.000	.014	.252	.015	.010	.004	.029	.015	1.902	.010	.010	.008
10	.000	1.708	.030	.161	.010	.004	.004	.006	.019	.010	.010	.010
11	.000	.042	.018	.043	.010	.003	.001	.003	.008	.010	.014	.128
12	.000	.000	.011	.017	.010	.001	.000	.000	.006	.010	.105	.057
13	.000	.000	.010	.010	.010	.001	.000	.000	.006	.010	.015	.042
14	.000	.000	.011	.015	.010	.000	.000	.000	.026	.010	.015	.033
15	.000	.000	.014	.017	.014	.000	.000	.000	.008	.010	.012	.025
16	.000	.000	.014	.010	.011	.000	.000	.049	.006	.047	.010	.018
17	.000	.000	.012	.015	.010	.000	.000	.096	.017	.019	.010	.012
18	.000	.000	.011	.040	.008	.000	.000	.053	.008	.010	.010	.010
19	.000	.000	.011	.010	.006	.000	.000	.012	.072	.010	.010	.008
20	.000	3.326	.010	.010	.004	.014	.000	.008	.108	.010	.010	.006
21	.000	.000	.010	.010	.004	.006	.000	.011	.169	.012	.010	.006
22	.000	.000	.010	.010	.006	.004	.000	.011	.011	.010	.010	.006
23	.000	.000	.008	.015	.006	.004	.000	.006	.010	.010	.010	.055
24	.000	.000	.008	.033	.006	.003	.000	.004	.008	.010	.010	.105
25	.000	.000	.008	.152	.004	.001	.000	.060	.006	.010	.010	.027
26	.000	.000	.008	.030	.040	.000	.000	.018	.004	.010	.086	.017
27	.000	2.890	.008	.026	.018	.008	.000	.008	.006	.010	.011	.008
28	.000	8.316	.008	.018	.010	.012	.000	.003	.006	.010	.010	.006
29	.000	-----	.008	.015	.010	.001	.000	.001	.006	.010	.010	.086
30	.000	-----	1.209	.015	.010	.000	.000	.244	.004	.010	.010	.133
31	.000	-----	4.991	-----	.010	-----	.000	.010	-----	.010	-----	.036
MEAN	.129	.741	.854	.283	.011	.006	.001	.022	.095	.010	.016	.029
INCHES	.289	1.496	1.910	.612	.025	.015	.002	.048	.205	.023	.035	.065
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .07213. RECORDS ARE EXCELLENT. SOME PERIODS IN WINTER PARTIALLY ESTIMATED BECAUSE OF ICE IN STILLING WELL.												

MONTHLY PRECIPITATION AND RUNOFF (inches)						FENNIMORE, WISCONSIN AREA—22.8 ACRES								31.02		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> /	1.22	.68	2/2.58	4.48	2.37	2.73	2.38	7.69	7.33	1.54	2.19	2.00	37.19			
Q	.24	1.73	1.36	.50	.00	.00	.00	.01	.35	.00	.00	.05	4.24			
STA AV <sub>3</sub> /P	.87	.90	1.83	3.12	3.80	4.78	4.19	4.02	3.67	2.23	2.06	1.06	32.53			
(38-65) Q	.16	.32	.75	.06	.01	.13	.13	.08	.03	.01	.00	.01	1.68			
MEAN P <sub>4</sub> /	1.16	1.12	2.02	3.01	3.99	4.39	3.76	3.49	3.85	2.34	1.99	1.29	32.41			
75 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-9	1.03	9-9	.29	9-9	.30	9-9	.30	2-6	.31	2-6	.51	2-27	.80	2-27	1.52
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO	6-28	2.68	8-6	1.39	8-6	1.72	7-15	2.25	7-15	2.26	7-15	2.26	7-15	2.26	3-24	3.77
1965	1945		1951		1951		1950		1950		1950		1950		1959	
Notes: Watershed conditions: 81.6% pasture, 18.4% soil bank (idle). 1/ Precipitation, R-6. 2/ Snow water equivalent on Mar. 25 was 1.73 in., and had completely melted by Apr. 7. 3/ Precipitation records began June 1938. Runoff records began July 1938. 4/ Mean P based on 75-yr (1891-1965) U. S. Weather Bureau record period at Lancaster, Wis.																

Notes: Watershed conditions: 81.6% pasture, 18.4% soil bank (idle). 1/ Precipitation, R-6. 2/ Snow water equivalent on Mar. 25 was 1.73 in., and had completely melted by Apr. 7. 3/ Precipitation records began June 1938. Runoff records began July 1938. 4/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Lancaster, Wis.

NO SELECTED RUNOFF EVENT REPORTED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 31.1-5.

Cooperative Research Project of USDA and Wisconsin Agricultural Experiment Station

31.2-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						FENNIMORE, WISCONSIN AREA—52.5 ACRES								31.03		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> /	1.49	.82	2/3.25	4.53	2.39	2.77	2.25	7.61	7.46	1.58	2.16	2.19	38.50			
Q	.20	1.58	1.39	.55	.00	.00	.00	T	.13	.00	.00	.02	3.87			
STA AV <sub>3</sub> /P	.90	.93	1.95	3.12	3.76	4.73	4.14	4.02	3.73	2.26	2.06	1.10	32.70			
(38-65) Q	.15	.27	.61	.03	.01	.13	.12	.08	.02	.01	.00	T	1.43			
MEAN P <sub>4</sub> /																
75 YR	1.16	1.12	2.02	3.01	3.99	4.39	3.76	3.49	3.85	2.34	1.99	1.29	32.41			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-9	.34	9-9	.12	2-20	.13	2-20	.25	2-28	.32	2-27	.54	2-27	.87	2-27	1.62
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO	6-28	1.63	8-6	1.01	8-6	1.32	7-15	2.38	7-15	2.38	7-15	2.38	7-15	2.38	7-15	2.54
19 65	1945		1951		1951		1950		1950		1950		1950		1950	
Notes: Watershed conditions: 16.0% corn, 5.0% small grain, 27.2% hay, 44.5% pasture, 7.3% roads and buildings. 1/ Precipitation is arithmetic average of 2 recording rain gages from Apr. 6 to Nov. 26 and R-8 rest of year. 2/ Snow water equivalent on Mar. 25 was 1.73 in., and had completely melted by Apr. 7. 3/ Precipitation records began June 1938. Runoff records began July 1938. 4/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Lancaster, Wis.																
NO SELECTED RUNOFF EVENT REPORTED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. 1956-59. USDA MISC. PUB. 945. P. 31.1-5.																

Notes: Watershed conditions: 16.0% corn, 5.0% small grain, 27.2% hay, 44.5% pasture, 7.3% roads and buildings. 1/ Precipitation is arithmetic average of 2 recording rain gages from Apr. 6 to Nov. 26 and R-8 rest of year. 2/ Snow water equivalent on Mar. 25 was 1.73 in., and had completely melted by Apr. 7. 3/ Precipitation records began June 1938. Runoff records began July 1938. 4/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Lancaster, Wis.

NO SELECTED RUNOFF EVENT REPORTED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 31.1-5.

Cooperative Research Project of USDA and Wisconsin Agricultural Experiment Station

(See 31.2-1 above)  
31.3-1



MONTHLY PRECIPITATION AND RUNOFF (inches)							FENNIMORE, WISCONSIN WATERSHED W-4 AREA—171 ACRES								31.04	
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1/</sup> Q	1.02 .32	.58 1.61	2/2.43 1.83	4.40 .84	2.34 .00	2.89 .02	2.33 .00	8.12 .00	7.53 .06	1.63 .00	2.28 .00	1.90 .02	37.45 4.70			
STA AV <sup>3/</sup> P (38-65) Q	.87 .18	.90 .34	1.85 .80	3.06 .07	3.71 .03	4.69 .19	4.12 .17	4.06 .11	3.67 .03	2.23 .01	2.06 .00	1.09 .01	32.36 1.94			
MEAN P 75 YR <sup>4/</sup>	1.16	1.12	2.02	3.01	3.99	4.39	3.76	3.49	3.85	2.34	1.99	1.29	32.41			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-9	.10	2-28	.09	2-28	.17	2-28	.39	2-28	.54	2-28	.80	2-27	1.01	2-27	2.03
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965	8-6 1951	1.76	8-6 1951	1.11	8-6 1951	1.48	7-15 1950	2.82	7-15 1950	2.86	7-15 1950	2.86	7-15 1950	2.86	7-15 1950	2.99
Notes: Watershed conditions: 32.9% corn, 15.0% grain, 15.6% hay, 17.9% pasture, 7.1% roads and buildings, 11.5% soil bank (idle). 1/ Precipitation is arithmetic average of 4 recording gages from Apr. 8 through Nov. 26 and R-1 rest of year. 2/ Snow water equivalent on Mar. 26 was 1.79 in., and had completely melted by Apr. 7. 3/ Precipitation records began June 1938. Runoff records began July 1938. 4/ Mean P based on 75-yr (1891-1965) U.S. Weather Bureau record period at Lancaster, Wis.																
NO SELECTED RUNOFF EVENT REPORTED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 31.1-5.																

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHEROKEE, OKLAHOMA WATERSHED W-10 AREA —1.68 ACRES							34.10		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	.01 .00	.72 .00	.86 .00	1.94 .04	2.06 .19	1.98 .01	1.91 .00	2.83 .T	4.96 .06	.69 .00	.00 .00	2.04 .00	20.00 .30			
STA AV <sub>2</sub> / (60-65) Q	.30 .00	.40 .00	1.43 .10	1.97 .06	2.66 .43	4.92 .87	2.66 .27	2.57 .04	3.08 .46	1.56 .08	1.76 .25	1.06 .01	24.37 2.57			
MEAN P <sub>3</sub> / 49 YR	.80	.89	1.65	2.83	3.85	3.92	2.31	2.89	2.74	2.24	1.36	.96	26.44			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
1965	5-13	.83	5-13	.19	5-13	.19	5-13	.19	5-13	.19	5-13	.19	5-13	.19	5-13	.19
MAXIMUMS FOR PERIOD OF RECORD																
19 60 TO 1965	9-14 1962	3.77	6-22 1963	1.16	6-22 1963	1.32	6-22 1963	1.37	6-22 1963	1.37	6-22 1963	2.42	6-22 1963	2.42	6-22 1963	2.42
NOTES: Watershed conditions: Continuous wheat annually, tillage during fallow period with chisel type field cultivator (Hoeme) to 6-inch depth with cross chiseling if necessary to obtain good tillage, final tillage before seeding wheat with a rod weeder. 1/ Precipitation data obtained from a standard gage at Rain Gage 5 location. 2/ Precipitation and runoff records began August 1960. 3/ Mean P based on 49-yr. (1915-63) U.S. Weather Bureau record period at Cherokee, Okla. with 20 missing months between 1943-59 estimated.																
NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 34.10-4.																
Cooperative Research Project of USDA and Oklahoma Agricultural Experiment Station																
34.10-1																

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHEROKEE, OKLAHOMA WATERSHED W-11 AREA —2.12 ACRES							34.11		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	.01 .00	.74 .00	.85 .00	1.93 .02	2.03 .05	1.87 .00	1.95 .00	2.84 .01	4.83 .11	.67 .00	.00 .00	2.03 .00	19.75 .19			
STA AV <sub>2</sub> / (60-65) Q	.30 .00	.43 .00	1.45 .09	2.00 .04	2.63 .25	4.84 .49	2.63 .13	2.56 .02	3.03 .27	1.51 .02	1.74 .16	1.07 .T	24.19 1.47			
MEAN P <sub>3</sub> / 49 YR	.80	.89	1.65	2.83	3.85	3.92	2.31	2.89	2.74	2.24	1.36	.96	26.44			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
1965	5-13	.12	5-13	.05	5-13	.05	9-20	.05	9-20	.08	9-20	.08	9-19	.09	9-17	.11
MAXIMUMS FOR PERIOD OF RECORD																
19 60 TO 1965	6-2 1961	2.03	6-2 1961	.92	6-2 1961	.94	6-2 1961	.95	6-2 1961	.95	6-2 1961	.95	6-2 1961	.95	9-4 1963	1.13
NOTES: Watershed conditions: Continuous wheat annually, tillage during fallow period with large sweeps (8 ft.), final tillage before seeding wheat with a rod weeder. 1/ Precipitation data obtained from a standard gage at Rain Gage 6 location. 2/ Precipitation and runoff records began August 1960. 3/ Mean P based on 49-yr. (1915-63) U.S. Weather Bureau record period at Cherokee, Okla. with 20 missing months between 1943-59 estimated.																
NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 34.11-4.																

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHEROKEE, OKLAHOMA WATERSHED W-12 AREA — 1.68 ACRES							34.12		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	.01 .00	.75 .00	.85 .00	1.96 .03	1.95 .06	2.24 .01	2.08 .00	3.17 .00	4.72 .08	.69 .00	.00 .00	2.04 .00	20.46 .18			
STA AV <sub>2</sub> / (60-65) P Q	.32 .00	.43 .00	1.41 .07	1.92 .03	2.57 .36	4.86 .90	3.07 .38	2.62 .04	3.00 .28	1.56 .05	1.77 .21	1.03 .T	24.56 2.32			
MEAN P <sub>3</sub> / 49 YR	.80	.89	1.65	2.83	3.85	3.92	2.31	2.89	2.74	2.24	1.36	.96	26.44			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	5-13	.26	5-13	.06	5-13	.06	5-13	.06	9-20	.07	9-20	.07	9-20	.07	9-17	.08
MAXIMUMS FOR PERIOD OF RECORD																
19 60 TO 1965	6-2 1961	2.96	6-2 1961	1.28	6-2 1961	1.29	6-22 1963	1.32	6-22 1963	1.32	6-22 1963	2.40	6-22 1963	2.40	6-22 1963	2.40
NOTES: Watershed conditions: Continuous wheat annually, first tillage during fallow period with one-way disc harrow shallow (2 in. to 2-1/2 in.), succeeding tillages with chisel type field cultivator (Hoeme) to maximum depth of 6 inches and final tillage before seeding wheat with same tool with sweeps on shanks. 1/ Precipitation data obtained from a standard gage at Rain Gage 10 location. 2/ Precipitation and runoff records began July 1960. 3/ Mean P based on 49-yr. (1915-63) U.S. Weather Bureau record period at Cherokee, Okla. with 20 missing months between 1943-59 estimated.																
NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 34.12-5.																
Cooperative Research Project of USDA and Oklahoma Agricultural Experiment Station																
34.12-1																

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHEROKEE, OKLAHOMA WATERSHED W-13 AREA — 1.99 ACRES							34.13		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / Q	.01 .00	.74 .00	.85 .00	2.00 .04	2.07 .04	2.03 .T	1.91 .00	2.98 .02	5.01 .09	.75 .00	.00 .00	2.04 .00	20.39 .19			
STA AV <sub>2</sub> / (60-65) P Q	.30 .00	.41 .00	1.43 .08	2.03 .02	2.65 .33	4.83 .65	3.14 .25	2.64 .01	3.08 .27	1.60 .04	1.79 .24	1.04 .T	24.94 1.89			
MEAN P <sub>3</sub> / 49 YR	.80	.89	1.65	2.83	3.85	3.92	2.31	2.89	2.74	2.24	1.36	.96	26.44			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	5-13	.15	9-20	.04	9-20	.05	9-20	.06	9-20	.08	9-20	.08	9-20	.08	9-17	.08
MAXIMUMS FOR PERIOD OF RECORD																
19 60 TO 19 65	6-2 1961	2.83	6-2 1961	1.16	6-2 1961	1.20	6-2 1961	1.20	6-22 1963	1.56	6-22 1963	1.56	6-22 1963	1.56		
Notes: Watershed conditions: Continuous wheat annually, tillage during fallow period with chisel type field cultivator (Hoeme) to 6-inch depth with cross chiseling if necessary to obtain good tillage, final tillage before seeding wheat with a rod weeder. 1/ Precipitation data obtained from a standard gage at Rain Gage 9 location. 2/ Precipitation and runoff records began July 1960. 3/ Mean P based on 49-yr (1915-63) U.S. Weather Bureau record period at Cherokee, Okla. with 20 missing months between 1943-59 estimated.																
NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 34.13-5.																



MONTHLY PRECIPITATION AND RUNOFF (inches)						CHEROKEE, OKLAHOMA WATERSHED W-14 AREA — 2.16 ACRES							34.14
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P <sub>1</sub> / Q	.01 .00	.74 .00	.85 .00	2.00 .03	2.07 .03	2.03 .00	1.91 .00	2.98 T	5.01 .07	.75 .00	.00 .00	2.04 .00	20.39 .13
STA AV <sup>2</sup> /P (60-65) Q	.30 .00	.41 .00	1.43 .04	2.03 .03	2.65 .38	4.83 .92	2.65 .37	2.62 T	3.08 .28	1.60 .01	1.79 .00	1.04 T	24.43 2.03
MEAN P <sub>3</sub> / 49 YR	.80	.89	1.65	2.83	3.85	3.92	2.31	2.89	2.74	2.24	1.36	.96	26.44

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-13	.20	5-13	.04	5-13	.04	9-20	.06	9-20	.06	9-20	.06	9-20	.06	9-18	.07

## MAXIMUMS FOR PERIOD OF RECORD

19 60 TO 19 65	7-28 1963	3.15	7-28 1963	1.20	7-28 1963	1.36	7-28 1963	1.37	7-28 1963	1.37	6-22 1963	2.18	6-22 1963	2.18	6-22 1963	2.18
-------------------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------

NOTES: Watershed conditions: Continuous wheat annually, first tillage during fallow period with one-way disc harrow shallow (2 in. to 2-1/2 in.), succeeding tillages with chisel type field cultivator (Hoeme) to maximum depth of 6 inches and final tillage before seeding wheat with same tool with sweeps on shanks. 1/ Precipitation data obtained from a standard gage at Rain Gage 9 location. 2/ No runoff record in 1964 due to hole in gage well. Precipitation and runoff records began September 1960. 3/ Mean P based on 49-yr. (1915-63) U.S. Weather Bureau record period at Cherokee, Okla. with 20 missing months between 1943-59 estimated.

NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 34.14-4.

Cooperative Research Project of USDA and Oklahoma Agricultural Experiment Station

34.14-1

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHEROKEE, OKLAHOMA WATERSHED W-15 AREA — 2.15 ACRES								34.15
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sub>1</sub> / Q	.01 .00	.73 .00	.89 .00	1.98 .04	2.00 .03	1.88 .00	1.92 .00	2.96 .00	4.77 .08	.68 .00	.00 .00	2.07 .00	19.89 .15	
STA AV <sup>2</sup> / <sub>P</sub> (60-65) Q	.31 .00	.42 .00	1.42 .11	1.96 .04	2.60 .51	4.75 .89	2.60 .16	2.51 .01	2.97 .22	1.55 .02	1.77 .20	1.06 T	23.92 2.16	
MEAN P <sub>3</sub> / 49 YR	.80	.89	1.65	2.83	3.85	3.92	2.31	2.89	2.74	2.24	1.36	.96	26.44	

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-20	.08	9-20	.05	9-20	.05	9-20	.07	9-20	.08	9-20	.08	9-20	.08	9-20	.08

## MAXIMUMS FOR PERIOD OF RECORD

19 60 TO 19 65	6-2 1961	2.64	6-23 1963	1.30	6-23 1963	1.53	6-23 1963	1.58	6-22 1963	1.67	6-22 1963	2.90	6-22 1963	2.90	6-22 1963	2.90
-------------------	-------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------

NOTES: Watershed conditions: Continuous wheat annually, tillage during fallow period with large sweeps (8 ft.), final tillage before seeding wheat with a rod weeder. 1/ Precipitation data obtained from a standard gage at Rain Gage 8 location. 2/ Precipitation and runoff records began September 1960. 3/ Mean P based on 49-yr. (1915-63) U.S. Weather Bureau record period at Cherokee, Okla. with 20 missing months between 1943-59 estimated.

NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 34.15-4.

Cooperative Research Project of USDA and Oklahoma Agricultural Experiment Station

(See 34.14-1 above)

34.15-1

MONTHLY PRECIPITATION AND RUNOFF (inches)							STILLWATER, OKLAHOMA WATERSHED W-1 AREA - 16.7 ACRES							37.1
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sub>1</sub> / Q	.83 .52	.70 .18	.83 .30	1.17 .21	4.10 .40	2.51 T	3.03 .01	1.79 .00	4.22 .03	.28 .00	.00 .00	2.25 .04	21.71 1.69	
STA AV <sup>2</sup> / <sub>P</sub> (51-65) Q	.55 .11	1.06 .23	2.04 .74	2.14 .64	5.33 .83	3.81 .97	4.37 .74	2.88 .08	3.46 .38	2.55 .69	1.57 .42	1.12 .21	30.88 7.04	
MEAN .P <sub>3</sub> / 71 YR	1.10	1.26	2.13	3.43	4.78	4.14	3.12	3.03	3.71	2.89	2.05	1.34	32.98	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-13	.10	5-13	.08	5-13	.14	5-13	.26	5-13	.29	5-13	.31	1-22	.36	1-22	.52

MAXIMUMS FOR PERIOD OF RECORD																
1951 TO 1965	4-18 1957	6.99	7-15 1951	3.31	7-15 1951	3.74	7-15 1951	3.96	10-2 1959	4.52	7-14 1951	5.18	10-1 1959	5.68	9-29 1959	7.62

NOTES: Watershed conditions: All native grass pasture. The pasture was heavily grazed from the latter part of May to the last week in August, after which all stock were removed for the balance of this year. The heavy grazing was reflected by a decrease in vegetation from 2.02 tons/acre at mid-April to 1.93 tons/acre at mid-September. The rain-fall deficit of 9.17 inches below station average was reflected in the soil moisture loss of 8.42 inches during the year. 1/ Precipitation data obtained from R-1 recording rain gage. 2/ Precipitation and runoff records began July 1951. Station average precipitation data from R-3 recording rain gage record. 3/ Mean P based on 71-yr. (1893-1963) U. S. Weather Bureau record period at Stillwater, Okla.

NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 37.1-3.																
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Cooperative Research Project of USDA and Oklahoma Agricultural Experiment Station

37.1-1

MONTHLY PRECIPITATION AND RUNOFF (inches)							STILLWATER, OKLAHOMA WATERSHED W-3 AREA - 92.0 ACRES							37.2
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sub>1</sub> / Q	.84 .15	.66 .01	.87 .09	1.12 .07	3.77 .09	2.39 .00	2.95 .00	1.76 .00	3.95 T	.28 .00	.00 .00	2.23 .00	20.82 .41	
STA AV <sup>2</sup> / <sub>P</sub> (51-65) Q	.55 .05	1.06 .13	2.04 .56	2.14 .53	5.33 1.65	3.81 .84	4.37 .74	2.88 .07	3.46 .34	2.55 .65	1.57 .23	1.12 .10	30.88 5.89	
MEAN .P <sub>3</sub> / 71 YR	1.10	1.26	2.13	3.43	4.78	4.14	3.12	3.03	3.71	2.89	2.05	1.34	32.98	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-14	.01	5-14	.01	5-14	.02	5-13	.05	1-22	.06	1-22	.07	1-22	.11	1-22	.14

MAXIMUMS FOR PERIOD OF RECORD																
1951 TO 1965	7-15 1951	4.74	7-15 1951	2.87	7-15 1951	3.49	7-15 1951	3.80	10-2 1959	4.96	10-1 1959	5.18	10-1 1959	6.08	9-30 1959	8.08

NOTES: Watershed conditions: All native grass cover, 32% of watershed area in hay meadow and 68% in pasture. The meadow portion produced 1.61 tons/acre hay crop which was slightly below normal. The pasture portion was heavily grazed and in fair to poor condition. The precipitation deficit amounted to 7.82 inches by the end of August, and the total deficit for the year was 10.06 inches below station average. 1/ Precipitation data obtained from R-3 recording rain gage. 2/ Precipitation and runoff records began July 1951. 3/ Mean P based on 71-yr. (1893-1963) U. S. Weather Bureau record period at Stillwater, Okla.

NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR MAP OF WATERSHED, SEE SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, USDA, ARS, JAN. 1960, P. 37.2-6.																
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

MONTHLY PRECIPITATION AND RUNOFF (inches)						STILLWATER, OKLAHOMA WATERSHED W-4 AREA - 206 ACRES								37.3		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	.78 .11	.64 .07	.87 .07	1.33 .06	4.20 .07	2.42 T	2.98 .03	1.84 .00	3.88 .07	.25 .00	.00 .00	2.04 T	21.23 .48			
STA AV2/P (51-65) Q	.49 .08	1.01 .10	2.00 .39	2.08 .35	5.14 1.34	3.61 .81	4.14 .59	2.86 .08	3.42 .38	2.57 .59	1.47 .15	1.05 .08	29.84 4.94			
MEAN P3/ 71 YR	1.10	1.26	2.13	3.43	4.78	4.14	3.12	3.03	3.71	2.89	2.05	1.34	32.98			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-20	.04	9-20	.02	9-20	.03	9-20	.05	9-20	.05	9-20	.05	9-20	.06	1-22	.09
MAXIMUMS FOR PERIOD OF RECORD																
1951 TO 1965	4-18 1957	2.39	4-18 1957	1.48	4-18 1957	1.75	10-2 1959	2.63	10-2 1959	4.49	10-2 1959	4.71	10-1 1959	5.23	9-30 1959	6.77
NOTES: Watershed conditions: All native grass cover, 17.3% of watershed area in hay meadow and 82.7% in pasture. The meadow portion produced a slightly below normal crop yield, due to an accumulated deficit in precipitation of 6.27 inches up to harvesting time. The precipitation deficit for the year was 8.61 inches below station average. In general, the pasture portion was over-grazed and the cover condition changed from fair to poor during the year. 1/ Precipitation data from R-2 recording rain gage. 2/ Precipitation and runoff records began July 1951. Station average precipitation data from R-4 recording rain gage record. 3/ Mean P based on 71-yr. (1893-1963) U.S. Weather Bureau record period at Stillwater, Okla.																
NO SIGNIFICANT SELECTED EVENT OCCURRED. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 37.3-2.																



MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS		WATERSHED C		42.02			
						AREA — 579 ACRES							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P <sub>1</sub> / Q	3.39 .87	4.00 .83	6.57 2/4.54	.97 .02	11.28 5.56	2.30 .39	.86 .00	2.88 .00	5.39 .05	2.16 .00	4.98 1.42	2.61 .22	47.39 13.90
STA AVG P (39-65)	1.94 .39	2.79 .50	2.06 .47	3.55 .82	4.09 .97	3.79 .62	1.37 .16	2.12 .03	2.91 .39	2.75 .29	3.15 .42	2.26 .49	32.78 5.55
MEAN P <sub>4</sub> / 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76

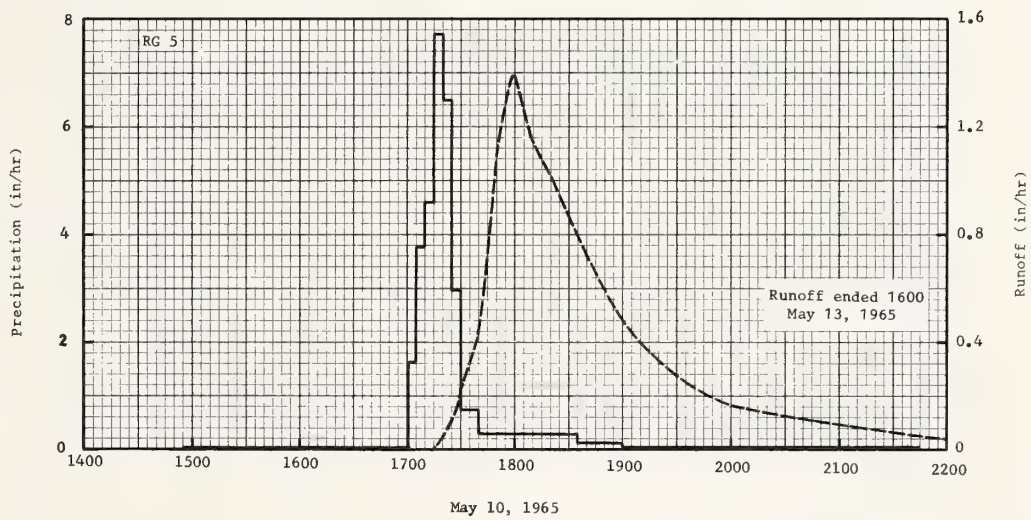
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	1.58	3-29	1.50	3-29	2.52	3-29	3.55	3-29	3.80	3-29	4.48	3-29	4.48	3-29	4.56

MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965	3-29 1965	2/1.58	3-29 1965	2/1.50	3-29 1965	2/2.52	3-29 1965	2/3.55	3-29 1965	2/3.80	3-29 1965	2/4.48	9-7 1942	4.78	4-19 1957	8.76E

NOTES: Watershed land use: 68% pasture; 7% fall planted small grain, largely oats; 9% row grain crop, largely grain sorghum; 2% gravel and paved roads; 14% other. Approx. 90% of "other" is Johnsongrass and weeds in conservation reserve, but neither tilled nor grazed. 1/ Precipitation data from Thiessen method using rain gages 5, 14, and 20. 2/ During storm of March 29 some water normally draining through station crossed county road and was not measured. 3/ Precipitation and runoff records began Feb. 1938; station not in operation July 1943 to Mar. 1, 1949; part-year amounts not included in averages. 4/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 5/ No maximums 1938, 1944-1948; maximums for 1943 occurred before July, and for 1949 after Mar. 1.

1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS		WATERSHED C		42.02	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)	
	3 RG 6/			Event of May 10-11, 1965							
4-10	.00	.0001	5-10	RG	5		5-10	1715	.0010	.0000	
4-25	.18	.0000		1455	.00	.00		1725	.0797	.0034	
4-26	.61	.0000		1702	.05	.10		1730	.2330	.0161	
5-05	.03	.0000		1705	1.65	.19		1740	.4321	.0689	
5-09	1.65	.0064		1710	3.78	.50		1750	1.0943	.2008	
5-10	.00	2/.0129		1715	4.61	.89		1758	1.3826	.3652	
				1720	7.73	1.53		1800	1.3826	.4113	
				1725	6.51	2.07		1808	1.1593	.5816	
				1730	2.98	2.32		1820	1.0202	.8009	
				1740	.76	2.45		1840	.7255	1.0952	
			1835	.28	2.71	1900	.4723	1.2906			
			1900	.13	2.76	1932	.2699	1.4804			
			2145	.08	2.97	2003	.1640	1.5909			
			RG	14	3.11	2058	.0963	1.7060			
			RG	20	3.20	2258	.0383	1.8289			
			3 RG	AVG 6/			3.02	5-11	2400	.0245	1.8607
							0358		.0068	1.9116	
							1158		.0018	1.9393	
							2400		.0006	1.9517	
							5-12	2400	.0001	1.9582	
								1600	.0000	1.9596	
Watershed conditions: 68% pasture, all classes; 7% fall planted small grain, mostly oats, headed in dough stage; 9% row grain sorghum, 2 to 6 inches high; 2% gravel and paved roads; 14% other. Approximately 90% of "other" is Johnsongrass and weeds in conservation reserve, neither tilled nor grazed.											

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 583.82. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 42.4-6. 8/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 5, 14, AND 20. 7/ RUNOFF PRIOR TO EVENT BEGINNING AT 1715.



RIESEL (WACO), TEXAS WATERSHED C

MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS AREA — 1,110 ACRES (1.73 SQ. MILES)					WATERSHED D 42.03		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	P1/ Q	3.39 .91	4.02 .80	7.09 5.70	.99 .01	11.18 6.08	2.34 .37	.66 .00	3.11 T	5.26 .09	2.08 .00	5.01 1.49	2.68 .22	47.81 15.67
STA AVG P (38-65) O	2/ Q	2.03 .44	2.78 .49	2.16 .53	3.55 .89	3.99 1.09	3.85 .62	1.43 .18	2.03 .05	2.82 .37	2.60 .28	3.05 .39	2.27 .47	32.56 5.80
MEAN 77 YR	P3/ Q	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	2.11	3-29	1.93	3-29	3.15	3-29	4.59	3-29	4.88	3-29	5.63	3-29	5.69	3-29	5.71

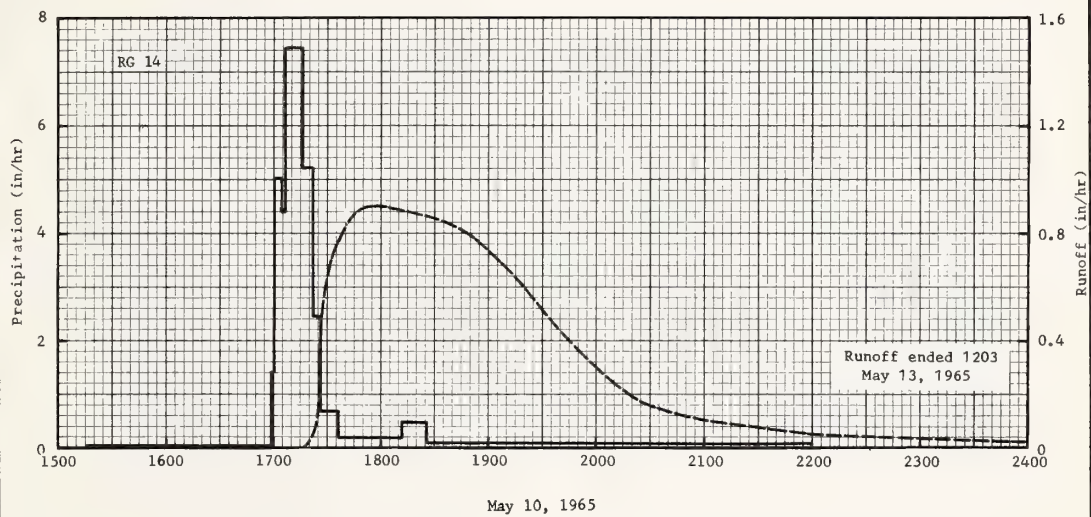
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965	3-29 1965	2.11	3-29 1965	1.93	3-29 1965	3.15	3-29 1965	4.59	3-29 1965	4.88	3-29 1965	5.63	3-29 1965	5.69	4-19 1957	9.66E

NOTES: Watershed land use: 47% pasture; 14% fall planted small grain, largely oats; 4% corn; 3% cotton; 12% row grain crop, largely grain sorghum; 2% gravel and paved roads; 18% other. Approx. 90% of "other" is Johnsongrass and weeds in conservation reserve, but neither tilled nor grazed. 2/ Precipitation data from Thiessen method using rain gages 5, 14, 20, and 26A. 3/ Precipitation and runoff records began Dec. 1937; station not in operation July 1943 to Mar. 1, 1949; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ No maximums 1938, 1944-1948; maximums for 1943 occurred before July, and for 1949 after Mar. 1.

1965 SELECTED RUNOFF EVENT				RIESEL (WACO), TEXAS				WATERSHED D 42.03					
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)			
	4 RG 5/		5-10	Event of May 10-11, 1965			5-10	1715	.0008	.0000			
4-10	.00	T		RG	14						1720	.0203	.0005
4-11	.00	T		1516	.00	.00					1724	.1346	.0052
4-12	.00	T		1658	.02	.03					1726	.1992	.0108
4-25	.15	.0000		1700	1.43	.08					1730	.5634	.0350
4-26	.64	.0000		1704	5.02	.42							
5-05	.03	.0000		1706	4.40	.56	1734	.7482	.0798				
5-09	1.69	.0519		1716	7.45	1.81	1744	.8657	.2148				
5-10	.00	5/.0125		1722	5.20	2.33	1750	.8908	.3026				
				1726	2.45	2.49	1756	.8944	.3918				
				1736	.69	2.60	1812	.8801	.6286				
				1812	.19	2.72	1832	.8522	.9180				
				1826	.51	2.84	1852	.7805	1.1910				
				2200	.08	3.11	1922	.5813	1.5337				
				RG	5	2.97	2002	.2889	1.8180				
				RG	20	3.20	2022	.1812	1.8936				
				RG	26A	3.13	2102	.1094	1.9866				
			4 RG	AVG 5/	3.09	2202	.0565	2.0650					
						2400	.0247	2.1432					
						5-11	0402	.0068	2.1968				
						1400	.0012	2.2267					
						2400	.0004	2.2341					
						5-12	2400	.0001	2.2386				
						5-13	1203	.0000	2.2393				

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 1119.25. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 42.4-6. 5/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 5, 14, 20, AND 26A. 6/ RUNOFF PRIOR TO EVENT BEGINNING AT 1715.





RIESEL (WACO), TEXAS WATERSHED D

MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS AREA — 4,380 ACRES (6.84 SQ. MILES)								WATERSHED G 42.04
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sub>1</sub> / <sub>9</sub>	3.40 .70	4.07 .82	7.32 4.75	1.07 .05	11.09 5.63	2.20 .45	.54 .00	2.92 .00	4.94 .04	2.02 .00	5.14 1.01	2.68 .17	47.39 13.62	
STA AVG <sub>P</sub> (38-65)	2.33 .69	2.95 .67	2.08 .54	3.10 .37	3.46 .74	5.04 1.04	1.59 .15	2.53 .06	2.97 .38	2.74 .18	3.20 .54	2.63 .55	34.62 5.91	
MEAN <sub>P</sub> 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76	

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.95	3-29	.91	3-29	1.72	3-29	3.39	3-29	3.94	3-29	4.63	3-29	4.74	3-29	4.78

## MAXIMUMS FOR PERIOD OF RECORD

1938 TO	3-29	.95	3-29	.91	3-29	1.72	3-29	3.39	3-29	3.94	3-29	4.63	3-29	4.74	11-22	4.82
1965 <sup>4/</sup>	1965		1965		1965		1965		1965		1965		1965		1940	

## NOTES:

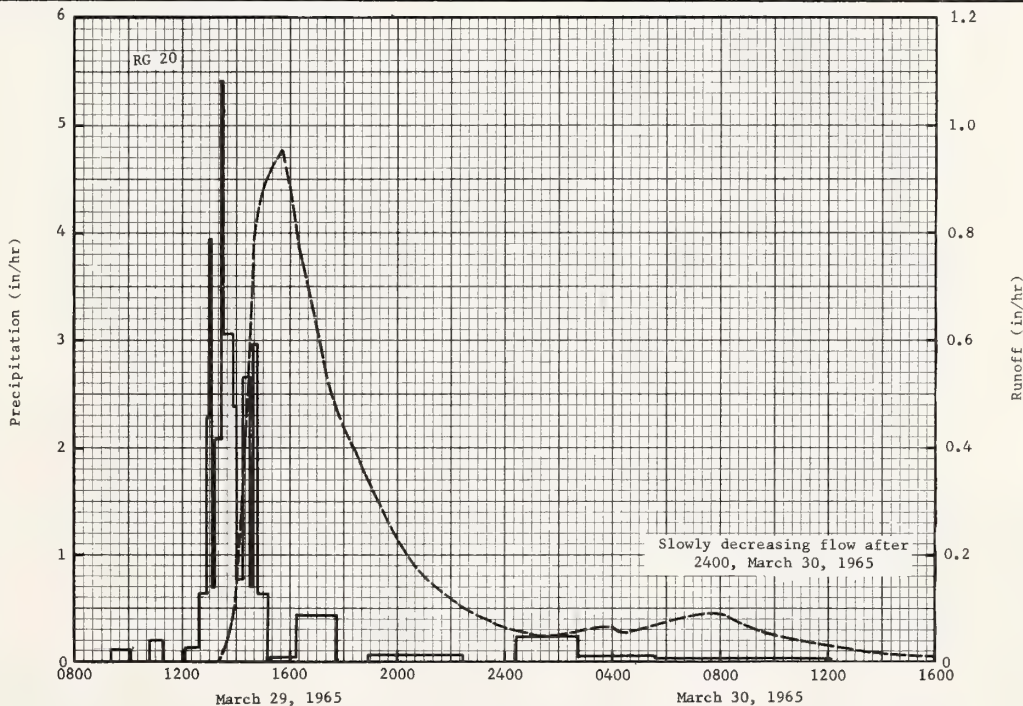
Watershed land use: 31% pasture; 10% fall planted small grain, largely oats; 9% corn; 6% cotton; 9% row grain crops, largely grain sorghum; 2% gravel and paved roads; 33% other. Approx. 90% of "other" is Johnsongrass and weeds in conservation reserve, neither tilled nor grazed. <sup>1/</sup> Precipitation data from Thiessen method using rain gages 5, 14, 20, 26A, 30A, 43A, 48A, 56A, 65A, 70, 74A, 84A, and 89. <sup>2/</sup> Precipitation and runoff records began Jan. 1938; station not in operation July 1943 to July 1, 1957; part-year amounts not included in averages. <sup>3/</sup> Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sup>4/</sup> No maximums 1944 through 1957; maximums for 1943 occurred before July 1.

1965 SELECTED RUNOFF EVENT			RIESEL (WACO), TEXAS				WATERSHED G				42.04	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)		
	13 RG 5/		Event of March 29-30, 1965									
2-27	.00	.0046	3-29	RG	.20		3-29	1320	.0002	.0000		
2-28	.00	.0021		0920	.00	.00		1340	.0245	.0023		
3-01	.04	.0016		1002	.11	.07		1400	.1121	.0226		
3-02	.00	.0008		1048	.00	.07		1420	.3715	.0935		
3-03	.07	.0004		1118	.20	.18		1440	.7803	.2876		
3-04	.00	.0003		1202	.00	.18		1500	.8675	.5675		
3-05	.00	.0002	1236	.12	.24	1525	.9286	.9388				
3-06	.00	.0001	1256	.63	.45	1545	.9502	1.2534				
3-07	.00	.0001	1300	2.27	.60	1600	.8879	1.4831				
3-08	.00	T	1304	3.92	.87	1620	.7678	1.7615				
3-09	.00	T	1308	.68	.91	1640	.7135	2.0090				
3-10	.00	T	1326	2.07	1.53	1720	.5425	2.4268				
3-11	T	.0001	1332	5.39	2.07	1803	.4326	2.7695				
3-12	.08	.0002	1353	3.05	3.14	1903	.3160	3.1448				
3-13	.00	.0001	1400	2.38	3.42	2003	.2186	3.4108				
3-14	.00	T	1414	.76	3.59	2158	.1151	3.7181				
3-15	.00	T	1432	2.64	4.39	2400	.0612	3.8859				
3-16	.38	T	1439	.69	4.47	3-30	0203	.0437	3.9881			
3-17	.08	.0009	1444	2.95	4.71		0343	.0648	4.0811			
3-18	.00	.0002	1512	.63	5.01		0433	.0544	4.1306			
3-19	.00	T	1518	.00	5.01		0603	.0770	4.2237			
3-20	.00	T	1612	.03	5.04	0748	.0933	4.3759				
3-21	.00	T	1742	.44	5.70	0903	.0623	4.4720				
3-22	.00	T	1850	.00	5.70	1205	.0258	4.6013				
3-23	.00	T	2222	.06	5.90	1405	.0147	4.6395				
3-24	.03	T	3-30	0022	.00	5.90	1730	.0077	4.6754			
3-25	.05	T		0242	.24	6.47	2400	<sup>6/</sup> .0036	4.7088			
3-26	.00	T		0532	.05	6.62						
3-27	.00	T		1202	.01	6.70						
			RG	48A								
For watershed conditions see next page			3-29	0931	.00	.00						
				1233	.06	.18						
				1244	1.92	.54						
				1255	.29	.59						
				1309	1.07	.84						

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4416.48. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 42.4-6. <sup>5/</sup> THIESSEN METHOD USING RAIN GAGES 5, 14, 20, 26A, 30A, 43A, 48A, 56A, 65A, 70, 74A, 84A, AND 89. <sup>6/</sup> NEXT EVENT BEGAN AT 0011 APRIL 2, 1965.

1965 SELECTED RUNOFF EVENT			RIESEL (WACO), TEXAS			WATERSHED G			42.04
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)
Event of March 29-30, 1965 - Continued									
Watershed conditions: 31% pasture, all classes; 10% fall planted small grain, largely oats, 2 to 6 inches high; 9% corn, up to a stand in most fields; 6% in beds, bare; 9% row grain sorghum, beginning to come up; 2% gravel and paved roads; 33% other. Approximately 90% of "other" is Johnsongrass and weeds in conservation reserve, neither tilled nor grazed.			3-29	1325	3.18	1.69			
				1335	4.85	2.50			
				1349	2.91	3.18			
				1355	1.66	3.34			
				1423	2.72	4.61			
				1509	.60	5.07			
				1549	.01	5.08			
				1621	.46	5.32			
				1651	.02	5.33			
				1721	.51	5.59			
			3-30	1727	2.44	5.83			
				1933	.04	5.93			
				1939	1.31	6.06			
				2209	.04	6.17			
				2400	.01	6.19			
				0035	.00	.00			
				0153	.20	.26			
				0215	.38	.40			
				0529	.07	.64			
				0607	.00	.64			
				0629	.10	.68			
				1039	.01	.70			
				RG	14	6.89			
				RG	26A	6.93			
				RG	30A	6.89			
				RG	56A	7.18			
				RG	70	6.10			
				RG	84A	5.95			
				RG	89	6.54			
				RG	43A	6.67			
				RG	74A	6.81			
				13 RG	AVG 1/	6.59			

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4416.48. 1/ THIESSEN METHOD USING RAIN GAGES 5, 14, 20, 26A, 30A, 43A, 48A, 56A, 65A, 70, 74A, 84A, AND 89.



RIESEL (WACO), TEXAS WATERSHED G



MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS						WATERSHED W-1		42.06
						AREA — 176 ACRES								
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
YEAR														
1965	P <sub>1</sub> / Q	3.38 .65	4.24 .63	6.93 4.55	1.32 .16	10.33 5.23	2.18 .42	.47 T	2.19 .00	4.98 T	1.98 T	5.27 1.01	2.39 .09	45.66 12.74
STA AVG P (38-65)	P	2.32 .49	2.75 .59	2.55 .65	3.84 .95	4.41 1.29	3.48 .59	1.51 .09	1.87 .02	2.39 .14	2.55 .20	3.03 .42	2.59 .47	33.29 5.90
MEAN 77 YR	P <sub>3</sub> / Q	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76

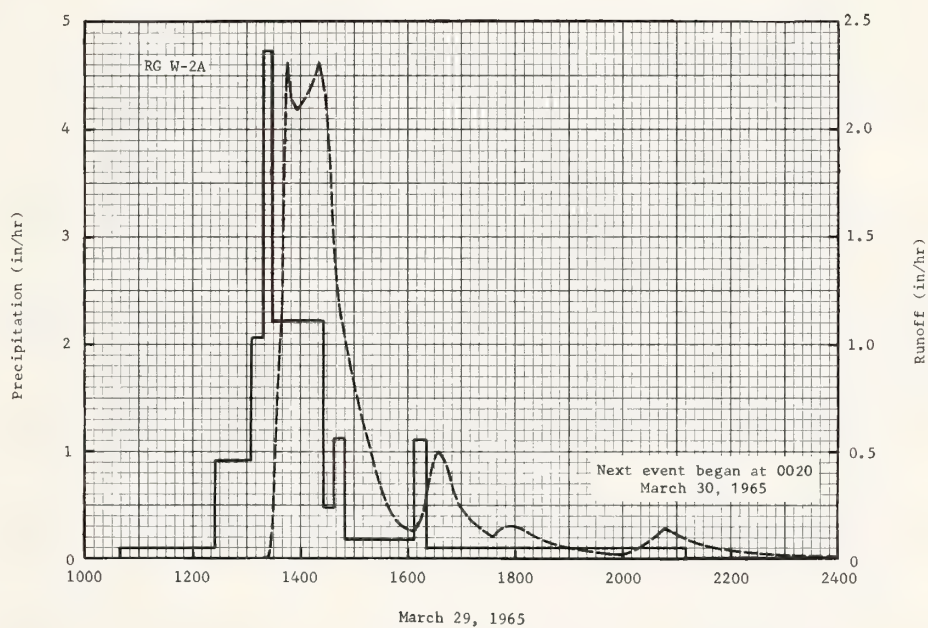
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	2.31	3-29	2.07	3-29	2.81	3-29	3.45	3-29	3.70	3-29	4.46	3-29	4.51	3-29	4.65

MAXIMUMS FOR PERIOD OF RECORD																
1937 TO 1965	5-1 1944	4.51	5-1 1944	2.99	5-1 1944	5.57	5-1 1944	6.91	5-1 1944	6.92	5-1 1944	7.05	4-30 1944	9.20	4-29 1944	11.06

NOTES: Watershed land use: 37% cotton; 15% corn; 15% oats; 7% row grain sorghum; 22% pasture; 3% gravel roads; 1% farmstead and waterways. Straight row cultivation; without terraces. 1/ Precipitation data from Thiessen method using rain gages 75A, 89, W-2, W-2A, and W-5A. 2/ Precipitation and runoff records began July 1937; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ No maximums for 1937.

1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS				WATERSHED W-1				42.06
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)				
5 RG 5/			Event of March 29, 1965											
2-27	.00	.0027	3-29	RG	W-2A		3-29	1205	.0001	.0000				
2-28	.00	.0017		1039	.00	.00		1320	.0086	.0023				
3-01	.04	.0012		1224	.11	.19		1325	.0167	.0034				
3-02	.00	.0006		1304	.92	.80		1330	.2425	.0095				
3-03	.06	.0011		1319	2.06	1.31		1335	.8414	.0561				
3-04	.00	.0008		1329	4.72	2.10		1340	1.2180	.1425				
3-05	.00	.0006		1424	2.22	4.13		1346	2.3130	.3230				
3-06	.00	.0005		1438	.47	4.24		1350	2.1381	.4718				
3-07	.00	.0005		1449	1.12	4.45		1356	2.0810	.6808				
3-08	.00	.0006		1604	.19	4.68		1404	2.1424	.9625				
3-09	.00	.0006	1619	1.11	4.96		1414	2.2134	1.3235					
3-10	.00	.0007	2109	.10	5.44		1421	2.3063	1.5880					
3-11	.01	.0008	2400	.01	5.47		1426	2.2134	1.7767					
3-12	.09	.0013	RG	75A	5.50		1435	1.7453	2.0782					
3-13	.00	.0010	RG	89	5.67		1445	1.1312	2.3148					
3-14	.00	.0009	RG	W-2	5.26		1455	.9012	2.4815					
3-15	.00	.0007	RG	W-5A	4.92		1505	.7106	2.6155					
3-16	.30	.0013	5 RG	AVG 5/	5.39		1521	.4294	2.7655					
3-17	.08	.0022					1540	.2174	2.8626					
3-18	.00	.0004					1604	.1350	2.9284					
3-19	.00	.0004					1622	.3505	2.9879					
3-20	.00	.0005		1633	.4907	3.0674								
3-21	.00	.0006		1650	.2895	3.1817								
3-22	.00	.0007		1734	.1088	3.2971								
3-23	.00	.0006		1744	.1393	3.3173								
3-24	.05	.0006		1757	.1533	3.3494								
3-25	.06	.0011		1819	.1010	3.3966								
3-26	.00	.0007		1955	.0227	3.4695								
3-27	.00	.0007		2031	.0974	3.4902								
3-28	.00	.0010		2044	.1437	3.5178								
3-29	.00	6/ .0006		2105	.1082	3.5645								
Watershed conditions: 37% bedded, no crop; 15% corn, 2 inches high; 15% oats, 4 to 6 inches high; 7% row grain sorghum, emerging; 22% bermuda-grass pasture, dormant, good cover; 4% gravel roads, farmstead, and waterways. Straight row cultivation, not terraced.								2145	7/ .0523	3.6156				
								2400	7/ .0167	3.6793				

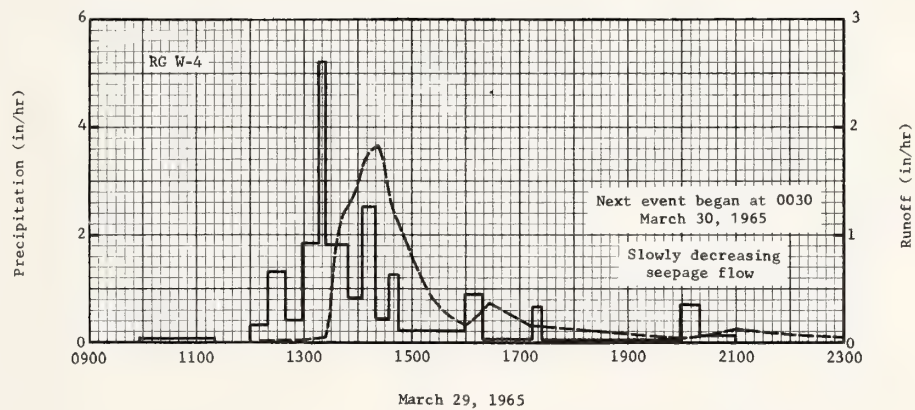
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 177.47. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 42.6-6 (REVISED). 5/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 75A, 89, W-2, W-2A, AND W-5A. 6/ RUNOFF PRIOR TO EVENT BEGINNING AT 1205. 7/ NEXT EVENT BEGAN AT 0020 MARCH 30, 1965.



RIESEL (WACO), TEXAS WATERSHED W-1

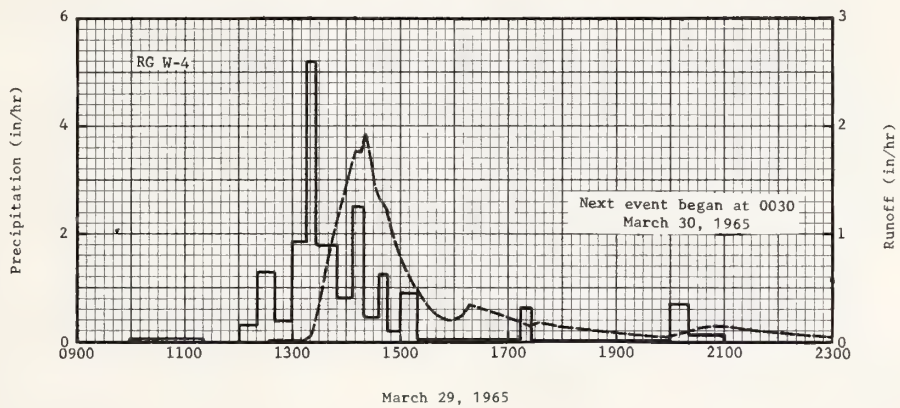
MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS				WATERSHED W-2				42.07	
							AREA — 130 ACRES									
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> / 0	3.48 .68	4.29 .89	6.70 4.45	1.43 .47	10.50 4.59	2.20 .69	.43 .08	2.55 .02	5.07 .02	2.00 .02	5.32 .89	2.23 .33	46.20 13.13			
STA AVG <sub>2</sub> / (38-65) 0	2.27 .55	2.75 .69	2.48 .72	3.82 .94	4.35 1.27	3.44 .55	1.51 .10	1.93 .01	2.42 .11	2.53 .18	2.98 .41	2.57 .57	33.05 6.10			
MEAN <sub>3</sub> / 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	1.83	3-29	1.52	3-29	2.24	3-29	2.88	3-29	3.46	3-29	4.07	3-29	4.15	3-29	4.34
MAXIMUMS FOR PERIOD OF RECORD																
19 37 TO 19 65 <sub>4</sub>	5-1 1944	4.83	5-1 1944	2.86	5-1 1944	5.40	5-1 1944	6.91	5-1 1944	6.97	5-1 1944	7.12	4-30 1944	9.26	4-29 1944	10.96
NOTES: Watershed land use: 19% oats-clover; 17% row grain sorghum; 55% pasture; 5% gravel roads; 4% Johnsongrass, not tilled or grazed. Cropland farmed on contour, not terraced. Modified conservation applied 1956. <sub>2</sub> / Precipitation data from Thiessen method using rain gages W-2, W-4, W-5A, and W-6. <sub>3</sub> / Precipitation and runoff records began July 1937; part-year amounts not included in averages. <sub>4</sub> / Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sub>5</sub> / No maximums for 1937.																
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS				WATERSHED W-2				42.07		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of March 29, 1965																
2-27	.00	.0103	3-29	RG	W-4		3-29	1210	.0007	.0000						
2-28	.00	.0120		0958	.00	.00	1315	.0105	.0030	.0030						
3-01	.03	.0125		1120	.06	.09	1325	.0304	.0058	.0058						
3-02	.00	.0095		1200	.00	.09	1330	.3549	.0159	.0159						
3-03	.07	.0129		1220	.33	.20	1335	.8217	.0656	.0656						
3-04	.00	.0099		1240	1.29	.63	1340	1.0795	.1463	.1463						
3-05	.00	.0093		1258	.39	.74	1346	1.2037	.2603	.2603						
3-06	.00	.0092		1316	1.85	1.30	1350	1.2515	.3422	.3422						
3-07	.00	.0093		1324	5.19	1.99	1355	1.3504	.4499	.4499						
3-08	.00	.0103		1350	1.80	2.77	1400	1.4622	.5672	.5672						
3-09	.00	.0107		1404	.82	2.96	1405	1.6125	.6942	.6942						
3-10	.00	.0112	1420	2.52	3.64	1411	1.7523	.8638	.8638							
3-11	.01	.0115	1434	.43	3.74	1415	1.7742	.9815	.9815							
3-12	.08	.0131	1446	1.24	3.98	1421	1.8318	1.1613	1.1613							
3-13	.00	.0111	1600	.19	4.21	1426	1.7705	1.3116	1.3116							
3-14	.00	.0107	1620	.88	4.51	1430	1.6515	1.4261	1.4261							
3-15	.00	.0113	1714	.03	4.53	1440	1.2047	1.6621	1.6621							
3-16	.25	.0118	1726	.64	4.66	1451	1.0055	1.8618	1.8618							
3-17	.09	.0169	2000	.02	4.72	1501	.7764	2.0108	2.0108							
3-18	.00	.0091	2020	.71	4.96	1511	.5869	2.1238	2.1238							
3-19	.00	.0089	2100	.12	5.04	1521	.4293	2.2081	2.2081							
3-20	.00	.0102	2400	.00	5.05	1541	.2414	2.3159	2.3159							
3-21	.00	.0105	RG	W-2	5.26	1602	.1647	2.3839	2.3839							
3-22	.00	.0107	RG	W-5A	4.92	1616	.2681	2.4286	2.4286							
3-23	.00	.0091	RG	W-6	5.08	1628	.3643	2.4929	2.4929							
3-24	.04	.0067	4 RG	AVG <sub>5</sub> /	5.04	1650	.2621	2.6100	2.6100							
3-25	.05	.0114				1715	.1567	2.6940	2.6940							
3-26	.00	.0082				2000	.0311	2.9106	2.9106							
3-27	.00	.0080				2036	.0682	2.9375	2.9375							
3-28	.00	.0091				2100	.1139	2.9784	2.9784							
3-29	.00	<sub>5</sub> / .0050				2135	.0861	3.0371	3.0371							
						2235	.0469	3.0997	3.0997							
Watershed conditions: 19% oats-clover, 4 to 6 inches high; 17% row grain sorghum, beginning to come up; 55% pasture, bermudagrass, good cover, dormant; 4% Johnsongrass, dormant, neither tilled nor grazed; 5% gravel roads. Cropland farmed on contour, not terraced.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 131.08. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 42.7-5 (REVISED). <sub>5</sub> / THIESSEN WEIGHTED RAINFALL USING RAIN GAGES W-2, W-4, W-5A, AND W-6. <sub>6</sub> / RUNOFF PRIOR TO EVENT BEGINNING AT 1210. <sub>7</sub> / NEXT EVENT BEGAN AT 0030 MARCH 30, 1965.																





RIESEL (WACO), TEXAS WATERSHED W-2

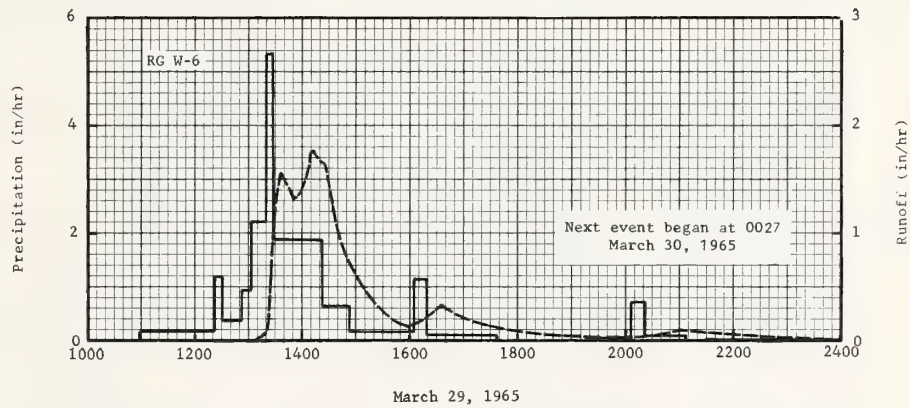
MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS		WATERSHED W-6		42.08					
							AREA — 42.3 ACRES									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	1/	3.46	4.21	6.71	1.38	10.50	2.23	.44	2.34	5.19	1.99	5.36	2.28	46.09		
	2/	.33	.30	4.11	.12	3.94	.51	T	.00	.00	.00	.46	.08	9.85		
STA AVG P	2/	2.10	2.67	2.34	3.86	4.05	3.65	1.40	1.98	2.56	2.72	3.03	2.38	32.74		
(40-65)	2/	.31	.37	.45	.63	.86	.48	.07	T	.11	.13	.34	.37	4.12		
MEAN	2/															
77 YR	2/	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	1.92	3-29	1.53	3-29	2.20	3-29	2.87	3-29	3.19	3-29	4.06	3-29	4.09	3-29	4.15
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-10	3.99	4-19	2.33	4-19	2.78	5-11	3.13	5-11	3.21	3-29	4.06	11-22	5.09	4-19	9.06
	1941		1957		1957		1957		1957		1965		1940		1957	
NOTES: Watershed land use: 25% row grain sorghum; 41% oats-clover; 15% pasture; 10% Johnsongrass, not tilled or grazed; 2% native grass waterways; 7% gravel roads. Modified conservation program since 1956. Cropland farmed on contour, no terraces. 1/ Precipitation data obtained from rain gages W-2, W-4, and W-5A. 2/ Precipitation and runoff records began May 1939; station not in operation July 1943 to Jan. 1, 1946; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1939 occurred after May 1, and for 1943 before July; no maximums for 1944 and 1945.																
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS		WATERSHED W-6		42.08					
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	3 RG 5/		Event of March 29, 1965													
2-27	.00	.0008	3-29	RG	W-4		3-29	1231	.0005	.0000						
2-28	.00	.0014		0958	.00	.00		1316	.0119	.0023						
3-01	.03	.0008		1120	.06	.09		1320	.0346	.0037						
3-02	.00	.0001		1200	.00	.09		1325	.1546	.0108						
3-03	.06	.0010		1220	.33	.20		1330	.3309	.0329						
3-04	.00	.0003		1240	1.29	.63		1336	.5355	.0769						
3-05	.00	.0002		1258	.39	.74		1340	.8439	.1222						
3-06	.00	.0002		1316	1.85	1.30		1346	1.0783	.2184						
3-07	.00	.0002		1324	5.19	1.99		1350	1.1430	.2926						
3-08	.00	.0004		1350	1.80	2.77		1355	1.3194	.3952						
3-09	.00	.0004		1404	.82	2.96		1401	1.5048	.5366						
3-10	.00	.0003		1420	2.52	3.64		1405	1.6574	.6419						
3-11	.03	.0004		1434	.43	3.74		1410	1.7767	.7857						
3-12	.07	.0009		1446	1.24	3.98		1415	1.7643	.9335						
3-13	.00	.0006		1600	.19	4.21		1421	1.9187	1.1166						
3-14	.00	.0005		1620	.88	4.51		1426	1.7589	1.2723						
3-15	.00	.0003		1714	.03	4.53		1430	1.5516	1.3825						
3-16	.28	.0007		1726	.64	4.66		1436	1.3416	1.5260						
3-17	.09	.0008		2000	.02	4.72		1446	1.2402	1.7410						
3-20	.00	.0002		2020	.71	4.96		1456	.8819	1.9172						
3-21	.00	.0005		2100	.12	5.04		1515	.5066	2.1359						
3-22	.00	.0006		2400	.00	5.05		1529	.3331	2.2317						
3-23	.00	.0005		RG	W-2	5.26		1546	.2253	2.3084						
3-24	.04	.0004		RG	W-5A	4.92		1600	.1848	2.3553						
3-25	.04	.0005		3 RG	AVG 5/	5.07		1609	.2272	2.3849						
3-26	.00	.0003						1617	.3376	2.4235						
3-27	.00	.0006						1635	.2931	2.5157						
3-28	.00	.0006						1723	.1513	2.6709						
3-29	.00	5/ .0004						1735	.1788	2.7143						
								1806	.1154	2.7879						
Watershed conditions: 25% row grain sorghum, beginning to come up; 41% oats-clover, 4 to 6 inches high; 15% pasture, bermudagrass, good cover, dormant; 10% Johnsongrass, dormant; neither tilled nor grazed; 2% native grass waterways, dense cover, dormant; 7% gravel roads. Cropland farmed on contour, not terraced.																
								1956	.0293	2.8954						
								2022	.0924	2.9145						
								2051	.1331	2.9703						
								2136	.0910	3.0557						
								2251	.0377	3.1302						
								2400	2/ .0182	3.1610						
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 42.652. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 42.7-5 (REVISED). 5/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES W-2, W-4, AND W-5A. 6/ RUNOFF PRIOR TO EVENT BEGINNING AT 1231. 7/ NEXT EVENT BEGAN AT 0030 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED W-6



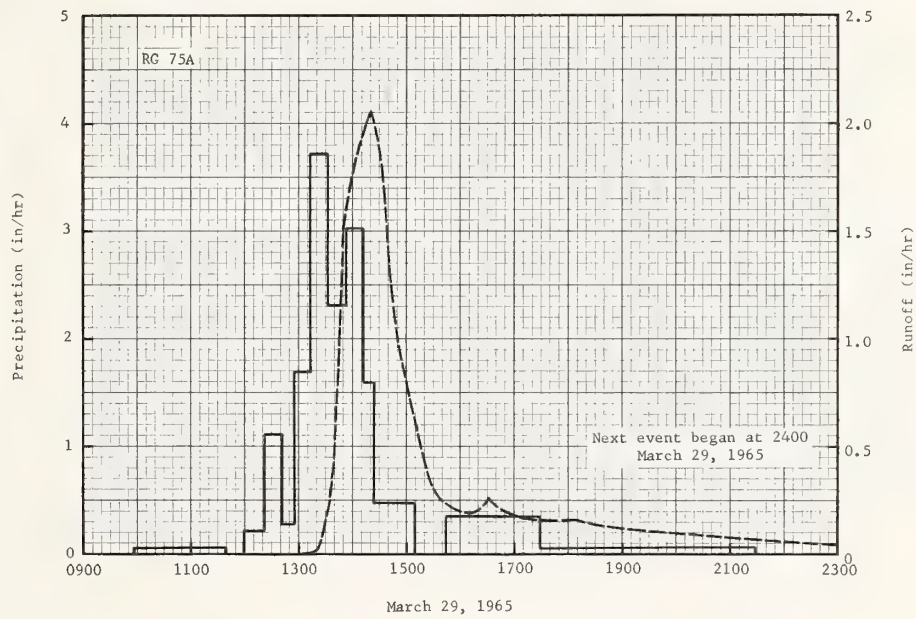
MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS AREA — 19.7 ACRES										WATERSHED W-10 42.10	
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965 P <sub>1</sub> / Q	3.53 .86	4.35 .69	6.73 4.06	1.54 .05	10.64 4.06	2.16 .22	.40 .00	2.93 .00	4.97 .00	2.02 .00	5.27 .64	2.16 .01	46.70 10.59				
STA AVG P (39-65) <sub>Q</sub>	2.12 .45	2.72 .43	2.21 .43	3.77 .74	3.93 .89	3.57 .57	1.38 .07	2.03 .01	2.46 .19	2.75 .26	2.98 .44	2.38 .42	32.30 4.90				
MEAN P <sub>77</sub> YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	3-29	1.77	3-29	1.55	3-29	2.27	3-29	2.86	3-29	3.11	3-29	4.02	3-29	4.06	3-29	4.10	
MAXIMUMS FOR PERIOD OF RECORD																	
1938 TO 1965 <sub>Q</sub>	6-10 1941	5.01	4-19 1957	2.31	4-19 1957	2.55	5-11 1957	3.00	11-22 1940	3.33E	11-22 1940	3.53E	11-22 1940	4.94E	5-19 1957	8.29	
NOTES: Watershed land use: 100% Coastal Bermudagrass for pasture. Grass sprigged in 1963 with poor coverage until late spring of 1964. Good cover after June 1964; moderately grazed. Watershed terraced. <u>1</u> / Precipitation data obtained from rain gage W-6. <u>2</u> / Precipitation and runoff records began August 1938; station not in operation July 1943 to May 3, 1946; part-year amounts not included in averages. <u>3</u> / Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <u>4</u> / Maximums for 1943 occurred before July, and for 1946 after May 3; no maximums for 1938, 1944, and 1945.																	
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS										WATERSHED W-10 42.10	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							
Event of March 29, 1965																	
3-01	RG W-6 .03	.0000	3-29	RG	W-6		3-29	1300	.0001	.0000							
3-03	.08	.0000		1057	.00	.00		1318	.0146	.0013							
3-12	.08	.0000		1221	.16	.22		1322	.0753	.0038							
3-16	.22	.0000		1229	1.19	.38		1325	.6035	.0178							
3-17	.09	.0000		1251	.39	.52		1330	1.3154	.1017							
3-24	.05	.0000		1301	.95	.68		1336	1.5625	.2479							
3-25	.05	.0000		1317	2.21	1.27		1340	1.5248	.3511							
				1325	5.37	1.98		1351	1.3472	.6176							
				1421	1.89	3.74		1357	1.3853	.7547							
				1451	.67	4.08		1402	1.5019	.8737							
				1602	.16	4.26		1408	1.7475	1.0374							
				1619	1.17	4.60		1411	1.7695	1.1254							
				1737	.10	4.72		1416	1.6864	1.2695							
				1917	.00	4.72		1424	1.6347	1.4934							
				2007	.07	4.78		1430	1.4340	1.6471							
				2021	.75	4.95		1440	.9936	1.8454							
				2107	.10	5.03		1450	.7848	1.9922							
				2137	.00	5.03		1501	.6005	2.1182							
				2400	.02	5.08		1511	.4630	2.2063							
								1521	.3451	2.2729							
								1541	.1856	2.3566							
								1559	.1226	2.4013							
								1615	.2038	2.4405							
								1634	.3253	2.5317							
								1659	.2017	2.6474							
								1834	.0581	2.8302							
								2004	.0242	2.8841							
								2029	.0481	2.8977							
								2059	.0948	2.9373							
								2119	.0862	2.9682							
								2204	.0514	3.0180							
								2400	<u>5</u> /.0239	3.0825							
Watershed conditions: 100% pasture, Coastal Bermudagrass, 2 inches high, good cover, dormant, watershed terraced.																	
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 19.864. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 42.7-5 (REVISED). <u>5</u> / NEXT EVENT BEGAN AT 0027 MARCH 30, 1965.																	



RIESEL (WACO), TEXAS WATERSHED W-10

MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS				WATERSHED Y				42.11															
							AREA — 309 ACRES																							
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL																
1965	P <sup>1</sup> / <sub>0</sub>	3.36	4.07	6.87	1.18	10.38	2.11	.50	2.48	4.98	1.97	5.08	2.49	45.47																
		.41	.45	4.08	.12	3.67	.40	.00	.00	T	T	.52	.09	9.74																
	2/ <sub>STA AVG P</sub>	2.23	2.63	2.25	3.74	3.94	3.67	1.40	1.82	2.34	2.57	2.83	2.34	31.76																
	(38-65) <sub>0</sub>	.47	.46	.44	.67	.74	.50	.08	T	.11	.11	.35	.33	4.26																
	MEAN																													
	77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																														
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL																											
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS															
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME														
1965	3-29	2.05	3-29	1.74	3-29	2.38	3-29	3.07	3-29	3.42	3-29	3.98	3-29	4.05	3-29	4.14														
MAXIMUMS FOR PERIOD OF RECORD																														
1937 TO	4-19	2.54E	4-19	2.15E	4-19	2.74E	4-19	3.48E	4-19	3.66E	3-29	3.98	11-22	4.77	4-19	9.36E														
1965	1957		1957		1957		1957		1957		1965		1940		1957															
NOTES:																														
Watershed land use: 36% pasture; 21% oats-clover; 15% cotton; 12% row grain sorghum; 9% corn; 3% tilled, no crop; 3% sudan grass; 1% gravel roads. Cropland terraced, contour cultivation. No change in conservation practices.																														
1/ Precipitation data from Thiessen method using rain gages 69, 69B, 70, 75A, 84A, 89, and W-2A. 2/ Precipitation and runoff records began May 1937; station not in operation July 1943 to May 1, 1946; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1943 occurred before July, and for 1946 after May 1; no maximums for 1937, 1944, and 1945.																														
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS				WATERSHED Y				42.11																
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF																							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)																				
	7 RG 5/		Event of March 29, 1965																											
2-27	.00	.0027	3-29	RG	75A		3-29	1200	.0000	.0000																				
2-28	.00	.0015		0956	.00	.00		1310	.0032	.0006																				
3-01	.04	.0016		1139	.05	.08		1320	.0154	.0018																				
3-02	.00	.0008		1159	.00	.08		1330	.1419	.0098																				
3-03	.07	.0012		1221	.22	.17		1340	.5648	.0649																				
3-04	.00	.0009		1241	1.11	.53		1350	1.4938	.2504																				
3-05	.00	.0007		1254	.27	.59		1402	1.8244	.5905																				
3-06	.00	.0005		1313	1.69	1.13		1412	1.9601	.9047																				
3-07	.00	.0004		1331	3.72	2.25		1420	2.0466	1.1726																				
3-08	.00	.0005		1352	2.31	3.06		1427	1.9512	1.4058																				
3-09	.00	.0007		1411	3.03	4.01		1435	1.6668	1.6478																				
3-10	.00	.0009		1423	1.60	4.33		1445	1.1534	1.8792																				
3-11	.02	.0008		1509	.47	4.70		1510	.6296	2.2451																				
3-12	.09	.0014		1543	.00	4.70		1532	.2798	2.3962																				
3-13	.00	.0008		1729	.34	5.30		1552	.2143	2.4751																				
3-14	.00	.0007		2129	.05	5.51		1612	.1948	2.5430																				
3-15	.00	.0005		RG	69	5.95		1632	.2623	2.6144																				
3-16	.34	.0008		RG	69B	5.28		1712	.1645	2.7549																				
3-17	.06	.0030		RG	70	5.56		1812	.1589	2.8920																				
3-18	.00	.0002		RG	84A	5.32		1902	.1165	3.0308																				
3-19	.00	.0001		RG	89	5.67		2102	.0708	3.2010																				
3-20	.00	.0002		RG	W-2A	5.47		2400	6/.0422	3.3707																				
3-21	.00	.0002		7 RG	AVG 5/	5.51																								
3-22	.00	.0003																												
3-23	.00	.0006																												
3-24	.04	.0003																												
3-25	.05	.0007																												
3-26	.00	.0003																												
3-27	.00	.0002																												
3-28	.00	.0003																												
3-29	.00	2/.0003																												
Watershed conditions: 36% pasture, bermuda and native grass, dormant, good cover, moderately grazed; 21% oats-clover, 4 to 6 inches high; 18% in beds, bare; 12% row grain sorghum, beginning to come up; 9% corn, up to stand; 3% sudan grass, freshly planted; 1% gravel roads. Cropland terraced, cultivated on contour.																														
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 311.57. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 42.11-5. 5/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 69, 69B, 70, 75A, 84A, 89 AND W-2A. 6/ NEXT EVENT BEGAN AT 2400 MARCH 29, 1965. 7/ RUNOFF PRIOR TO EVENT BEGINNING AT 1200.																														

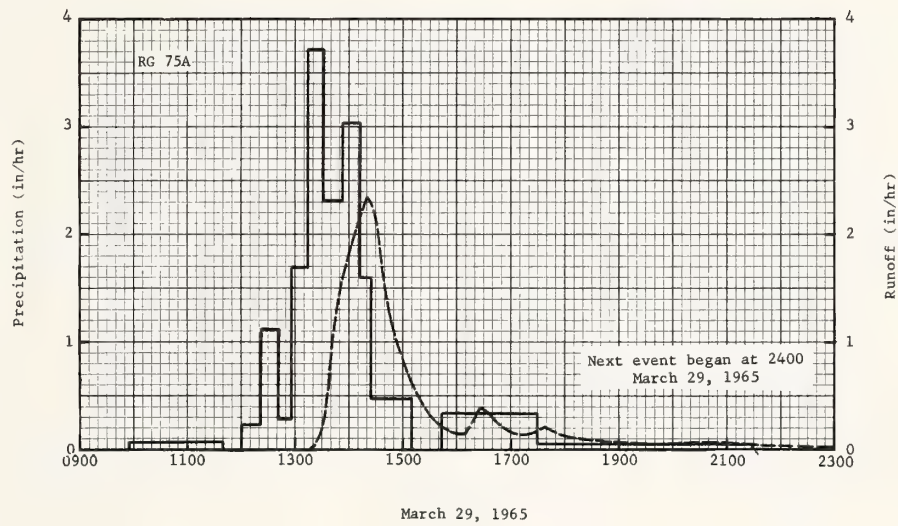
Cooperative Research Project of USDA and Texas Agricultural Experiment Station



RIESEL (WACO), TEXAS WATERSHED Y

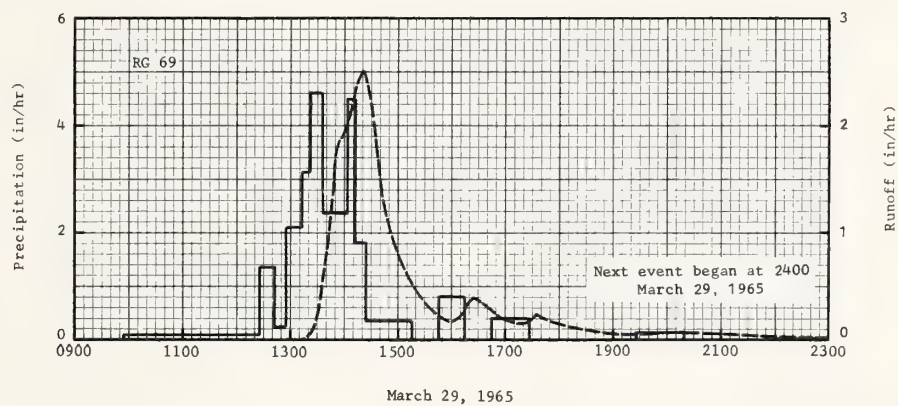


MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS		WATERSHED Y-2		42.12					
							AREA — 132 ACRES									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>1</sup> / <sub>Q</sub>	3.37	4.02	6.82	1.17	10.38	2.08	.49	2.43	5.01	1.97	5.08	2.52	45.34		
		.35	.29	3.87	.03	4.25	.37	.00	.00	.00	.00	.59	.07	9.82		
	2/ STA AVG P	2.23	2.68	2.54	3.82	4.52	3.54	1.48	1.88	2.48	2.55	3.03	2.52	33.27		
	(39-65) Q	.43	.53	.64	.84	1.18	.50	.07	T	.10	.13	.36	.47	5.25		
	MEAN P <sup>3</sup> / 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	2.35	3-29	1.86	3-29	2.52	3-29	3.16	3-29	3.36	3-29	3.82	3-29	3.87	3-29	3.90
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO	5-1	4.07	5-1	3.11	5-1	5.47	5-1	7.08	5-1	7.28	5-1	7.46	4-30	9.64	4-29	10.60
1965	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944	1944
NOTES: Watershed land use: 33% pasture; 19% oats-clover; 20% cotton; 19% row grain sorghum; 8% sudan grass; 1% gravel roads. Cropland terraced; contour cultivation; conservation treatment since 1942. 1/ Precipitation data from Thiessen method using rain gages 69, 69B, 70, 75A, and 84A. 2/ Precipitation and runoff record began Jan. 1, 1939. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas.																
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS		WATERSHED Y-2		42.12					
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
5 RG 4/			Event of March 29, 1965													
2-27	.00	.0001	3-29	RG	75A		3-29	1258	.0000	.0000						
3-01	.04	.0000		0956	.00	.00		1322	.0023	.0001						
3-03	.07	.0000		1139	.05	.08		1330	.1303	.0097						
3-11	.01	.0000		1159	.00	.08		1340	.7711	.0815						
3-12	.10	.0000		1221	.22	.17		1350	1.5124	.2674						
3-16	.34	.0000		1241	1.11	.53		1400	1.8245	.5498						
3-17	.06	.0000		1254	.27	.59		1410	2.0828	.8700						
3-24	.04	.0000		1313	1.69	1.13		1415	2.2881	1.0524						
3-25	.05	.0000		1331	3.72	2.25		1420	2.3522	1.2464						
				1352	2.31	3.06		1425	2.2881	1.4407						
Watershed conditions: 33% pasture, bermudagrass and native grass, good cover, dormant, moderately grazed; 19% oats-clover, 4 to 6 inches high; 20% in beds, bare; 19% row grain sorghum, beginning to come up; 8% sudan grass, freshly planted; 1% gravel roads. Cropland terraced, cultivated on contour.				1411	3.03	4.01		1430	2.0725	1.6231						
				1423	1.60	4.33		1440	1.3679	1.9093						
				1509	.47	4.70		1502	.7729	2.2855						
				1543	.00	4.70		1532	.2918	2.5380						
				1729	.34	5.30		1602	.1382	2.6356						
				2129	.05	5.51		1612	.1719	2.6602						
				RG	69	5.95		1620	.2962	2.6903						
				RG	69B	5.28		1628	.3943	2.7379						
				RG	70	5.56		1639	.3208	2.8051						
				RG	84A	5.32		1651	.2133	2.8581						
			5 RG	AVG 4/	5.52		1717	.1234	2.9251							
							1739	.2067	2.9827							
							1808	.1049	3.0680							
							1938	.0413	3.1685							
							2038	.0722	3.2273							
							2158	.0322	3.2967							
							2400	5/.0150	3.3427							
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 133.10. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 42.11-5. 4/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 69, 69B, 70, 75A, AND 84A. 5/ NEXT EVENT BEGAN AT 2400 MARCH 29, 1965.																



RIESEL (WACO), TEXAS WATERSHED Y-2

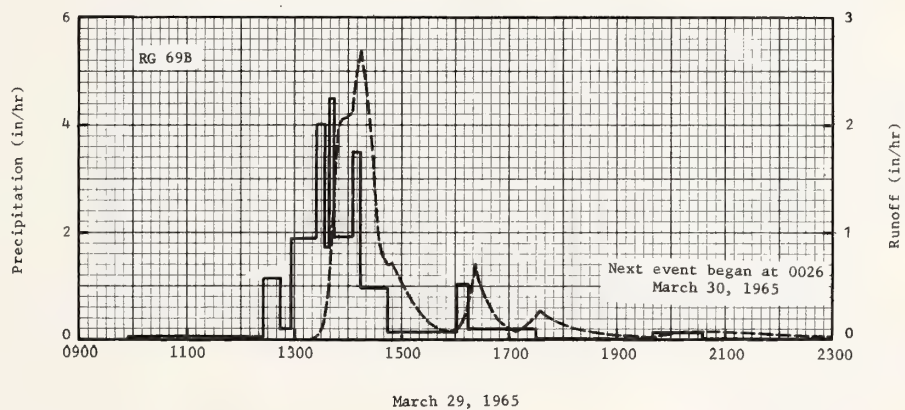
MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS				WATERSHED Y-4				42.13			
							AREA — 79.9 ACRES											
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL					
1965	3.37	3.98	6.81	1.16	10.39	2.07	.52	2.39	4.99	1.97	5.12	2.57	45.34					
	.42	.38	4.03	.06	4.26	.35	.00	.00	.00	.00	.52	.06	10.08					
STA AVG P (39-65)	2.18	2.64	2.29	3.72	4.21	3.66	1.37	1.86	2.53	2.62	3.01	2.32	32.41					
MEAN P	.36	.40	.44	.65	.94	.54	.08	T	.11	.14	.36	.32	4.34					
77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76					
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																		
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL															
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME				
1965	3-29	2.50	3-29	1.98	3-29	2.67	3-29	3.34	3-29	3.53	3-29	3.96	3-29	4.02	3-29	4.07		
MAXIMUMS FOR PERIOD OF RECORD																		
1939 TO 1965	6-10 1941	3.12	4-19 1957	2.16	4-19 1957	2.85	3-29 1965	3.34	3-29 1965	3.53	3-29 1965	3.96	4-23 1957	5.12	4-19 1957	9.46		
NOTES: Watershed land use: 31% pasture; 31% row grain sorghum; 8% cotton; 29% oats-clover; 1% gravel roads. Cropland terraced and contour tilled; no change in conservation practices. 1/ Precipitation data from Thiessen method using rain gages 69, 69B, 75A, and 84A. 2/ Precipitation and runoff records began Jan. 1, 1939; station not in operation July 1943 to Jan. 1, 1946; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1943 occurred before July; no maximums for 1944 and 1945.																		
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS				WATERSHED Y-4				42.13			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF											
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)								
Event of March 29, 1965																		
2-27	.00	.0004	3-29	69			3-29	1315	.0000	.0000								
3-01	.04	.0000		0953	.00	.00		1319	.0120	.0002								
3-03	.06	.0000		1226	.09	.23		1325	.0303	.0024								
3-11	.01	.0000		1242	1.35	.59		1330	.0875	.0066								
3-12	.11	.0000		1256	.25	.64		1335	.4218	.0245								
3-16	.34	.0000		1312	2.09	1.20		1340	.6534	.0700								
3-17	.06	.0000		1322	3.07	1.71		1345	1.1637	.1415								
3-24	.04	.0000		1334	4.60	2.63		1350	1.6754	.2634								
3-25	.05	.0000		1403	2.34	3.76		1355	1.8665	.4110								
				1412	4.50	4.44		1402	1.9736	.6382								
Watershed conditions: 31% pas- ture, bermudagrass and native grass, good cover, dormant, moderately grazed; 31% row grain sorghum, beginning to come up; 8% in beds, bare; 29% oats- clover 4 to 6 inches high; 1% gravel roads. Cropland ter- raced, contour cultivation.																		
				1424	1.81	4.80		1406	2.0571	.7720								
				1516	.34	5.10		1411	2.2939	.9538								
				1546	.00	5.10		1415	2.4324	1.1120								
				1616	.81	5.50		1421	2.4977	1.3585								
				1646	.00	5.50		1425	2.4209	1.5231								
				1728	.41	5.79		1430	2.1350	1.7137								
				1926	.00	5.79		1435	1.7706	1.8779								
				2020	.14	5.92		1440	1.4346	2.0109								
				2150	.00	5.92		1450	1.0943	2.2213								
				2256	.04	5.96		1500	.8384	2.3816								
				RG	69B	5.28		1510	.6392	2.5045								
				RG	75A	5.50		1530	.3434	2.6629								
				RG	84A	5.32		1600	.1681	2.7789								
				4 RG	AVG 5/	5.54		1611	.2100	2.8126								
								1619	.3371	2.8485								
								1627	.3782	2.8969								
								1641	.2978	2.9776								
								1700	.1767	3.0492								
								1712	.1492	3.0810								
								1725	.1676	3.1145								
								1735	.2259	3.1476								
								1759	.1612	3.2289								
								1904	.0494	3.3297								
								1934	.0374	3.3512								
								2029	.0578	3.3947								
								2209	.0273	3.4621								
								2400	.0186	3.5048								
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 80.565. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB.1194, P. 42.11-5. 5/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 69, 69B, 75A, AND 84A. 6/ NEXT EVENT BEGAN AT 2400 MARCH 29, 1965.																		



RIESEL (WACO), TEXAS WATERSHED Y-4

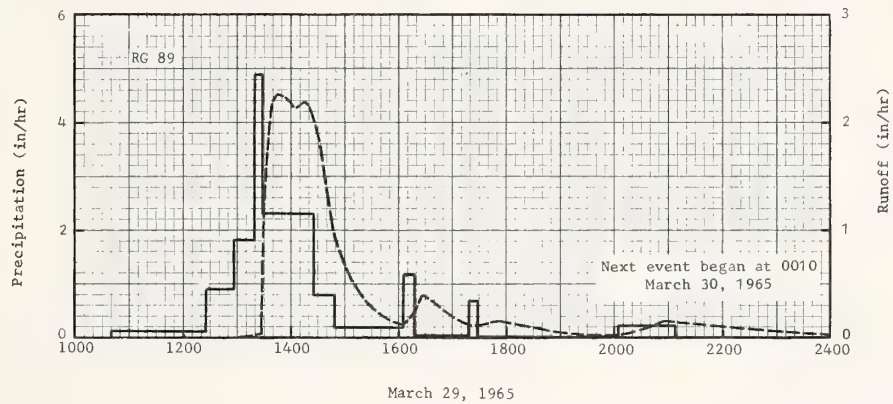


MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS		AREA — 16.3 ACRES		WATERSHED Y-6		42.14				
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965	3.41	3.98	6.64	1.16	10.44	2.11	.50	2.28	5.00	1.94	5.10	2.56	45.12			
P <sup>1</sup> / <sub>Q</sub>	.27	.19	3.73	.05	5.44	.20	.00	.00	.00	.00	.45	.00	10.33			
STA AVG P	2.08	2.73	2.13	3.77	3.98	3.86	1.42	1.88	2.47	2.77	2.99	2.28	32.36			
(39-65) <sup>2</sup> / <sub>Q</sub>	.28	.33	.31	.64	.83	.55	.09	T	.11	.25	.39	.31	4.09			
MEAN	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
77 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	3-29	2.69	3-29	1.90	3-29	2.34	3-29	2.95	3-29	3.13	3-29	3.67	3-29	3.72	5-9	4.09
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965 <sup>4</sup> / <sub>1965</sub>	6-10	3.79	3-29	1.90	3-29	2.34	3-29	2.95	3-29	3.13	3-29	3.67	11-22	4.87	4-19	8.49
	1941		1965		1965		1965		1965		1965		1940		1957	
NOTES: Watershed land use: 5% pasture; 93% row grain sorghum; 2% gravel roads. Cropland terraced and contour tilled; no change in conservation practices. <sup>1</sup> / <sub>2</sub> Precipitation data from Thiessen method using rain gages 69B and 75A. <sup>2</sup> / <sub>3</sub> Precipitation and runoff records began Jan. 1939; station not in operation July 1943 to May 1, 1947; part-year amounts not included in averages. <sup>3</sup> / <sub>4</sub> Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sup>4</sup> / <sub>5</sub> Maximums for 1943 occurred before July; no maximums 1944 through 1947.																
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS		WATERSHED Y-6		42.14						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	2 RG 5/		Event of March 29, 1965													
2-27	.00	.0001	3-29	RG	69B		3-29	1257	.0000	.0000						
2-28	.00	.0001		0956	.00	.00		1320	.0045	.0004						
3-01	.04	.0008		1226	.07	.18		1325	.0087	.0009						
3-02	.00	T		1244	1.13	.52		1330	.0318	.0023						
3-03	.07	.0003		1257	.20	.57		1335	.1395	.0082						
3-04	.00	T		1324	1.90	1.42		1340	.7133	.0403						
3-11	.01	.0000		1336	4.02	2.23		1345	1.4850	.1327						
3-12	.11	.0000		1340	1.72	2.34		1349	1.9587	.2503						
3-16	.33	.0000		1344	4.52	2.64		1354	2.0586	.4194						
3-17	.06	.0000		1404	1.93	3.29		1400	2.0825	.6238						
3-24	.04	.0000	1414	3.49	3.87	1406	2.1361	.8334								
3-25	.05	.0000	1446	.97	4.38	1410	2.5130	.9864								
			1602	.16	4.59	1415	2.6921	1.2067								
			1616	1.03	4.83	1419	2.4646	1.3800								
			1730	.20	5.07	1426	1.9980	1.6381								
			1938	.02	5.13	1430	1.5682	1.7567								
			2036	.12	5.24	1439	.7866	1.9256								
			2400	.01	5.28	1446	.6918	2.0098								
			RG	75A	5.50	1450	.7332	2.0577								
			2 RG	AVG 2/	5.34	1503	.5080	2.1945								
							1518	.2782	2.2896							
							1541	.1091	2.3595							
							1559	.0775	2.3862							
							1610	.1943	2.4058							
							1616	.4116	2.4352							
							1623	.7043	2.5068							
							1631	.4781	2.5868							
							1641	.2756	2.6473							
							1651	.1639	2.6834							
							1710	.0983	2.7224							
							1725	.1594	2.7515							
							1735	.2800	2.7888							
							1800	.1449	2.8800							
							1830	.0556	2.9260							
							1925	.0188	2.9554							
							1945	.0186	2.9614							
							2010	.0784	2.9825							
							2045	.0748	3.0285							
							2125	.0388	3.0652							
							2400	5/.0117	3.1157							
Watershed conditions: 93% row grain sorghum, beginning to come up; 5% pasture, bermuda-grass, good cover, lightly grazed, dormant; 2% gravel roads. Cropland terraced, contour cultivation.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 16.436. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 42.11-5. <sup>5</sup> / <sub>6</sub> THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 69B AND 75A. <sup>6</sup> / <sub>7</sub> NEXT EVENT BEGAN AT 0026 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED Y-6

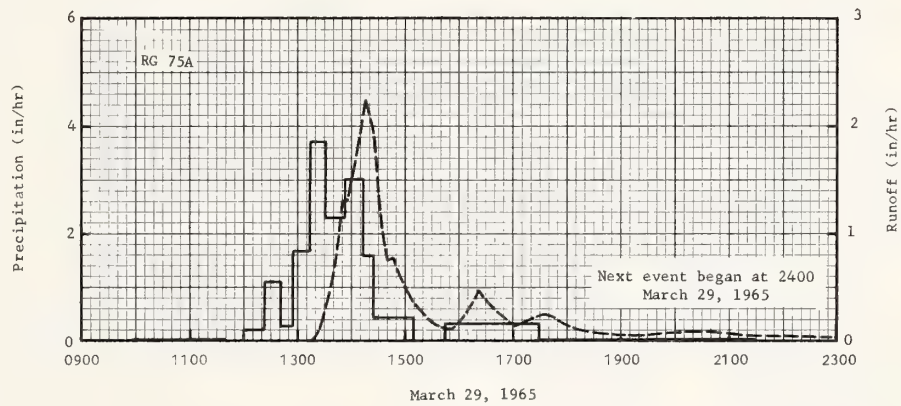
MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS		WATERSHED Y-7		42.15						
						AREA — 40.0 ACRES										
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965	3.31	4.19	7.22	1.24	10.40	2.18	.51	2.24	4.95	1.92	5.13	2.44	45.73			
	.97	.98	4.70	.08	4.60	.56	.00	.00	.03	.00	1.12	.02	13.06			
STA AVG P (39-65)	2.10	2.78	2.19	3.83	4.01	3.82	1.41	1.91	2.42	2.82	3.05	2.32	32.66			
	.30	.42	.44	.74	.97	.62	.08	.03	.16	.23	.48	.39	4.86			
MEAN 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	2.27	3-29	2.14	3-29	2.96	3-29	3.58	3-29	3.84	3-29	4.66	3-29	4.70	3-29	4.78
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-10 1941	3.59	4-19 1957	2.34	3-29 1965	2.96	3-29 1965	3.58	3-29 1965	3.84	3-29 1965	4.66	11-22 1940	5.37	4-19 1957	8.89
NOTES:																
Watershed land use: 7% pasture; 46% oats; 25% corn; 22% tilled, no crop. Cropland terraced, contour tilled.																
1/ Precipitation data from Thiessen method using rain gages 89 and W-2A. 2/ Precipitation and runoff records began Jan. 1939; station not in operation from July 1943 to May 1, 1947; part-year amounts not included in averages.																
3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1943 occurred before July; no maximums for 1944 through 1947.																
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS		WATERSHED Y-7		42.15						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
2 RG 5/			Event of March 29, 1965													
2-27	.00	.0008	3-29	RG	.89		3-29	1227	.0000	.0000						
3-01	.04	.0000		1039	.00	.00		1319	.0106	.0015						
3-03	.07	.0000		1224	.11	.19		1325	.0357	.0035						
3-11	.03	.0000		1257	.91	.69		1330	1.2410	.0700						
3-12	.08	.0000		1319	1.82	1.36		1335	1.9196	.2018						
3-16	.32	.0000		1329	4.90	2.18		1340	2.2049	.3778						
3-17	.06	.0000		1424	2.30	4.29		1346	2.2746	.6029						
3-24	.04	.0000		1449	.79	4.62		1350	2.2544	.7539						
3-25	.05	.0000		1604	.19	4.86		1356	2.2234	.9783						
				1619	1.16	5.15		1400	2.1620	1.1241						
Watershed conditions: 7% pasture, bermudagrass, good cover, dormant, lightly grazed; 46% oats; 4 to 6 inches high; 25% corn, up to a stand; 22% no crop, bedded. Cropland terraced, contour cultivation.				1719	.06	5.21		1404	2.1391	1.2672						
				1729	.70	5.32		1410	2.1467	1.4812						
				2004	.02	5.38		1414	2.1926	1.6260						
				2109	.24	5.64		1420	2.1589	1.8437						
				2400	.01	5.67		1430	1.9152	2.1858						
				RG	W-2A	5.47		1450	.9202	2.6209						
				2 RG	AVG 5/	5.67		1510	.5021	2.8593						
								1530	.2863	2.9869						
								1606	.1272	3.0948						
								1620	.2295	3.1327						
								1628	.3924	3.1782						
								1646	.2761	3.2835						
								1719	.1191	3.3809						
								1736	.1154	3.4144						
								1751	.1478	3.4478						
								1827	.0932	3.5224						
								2007	.0268	3.6007						
								2040	.1030	3.6246						
								2054	.1427	3.6550						
								2112	.1185	3.6952						
								2400	5/0188	3.8180						
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 40.333. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB.1194, P. 42.11-5. 5/ THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 89 AND W-2A. 6/ NEXT EVENT BEGAN AT 0010 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED Y-7

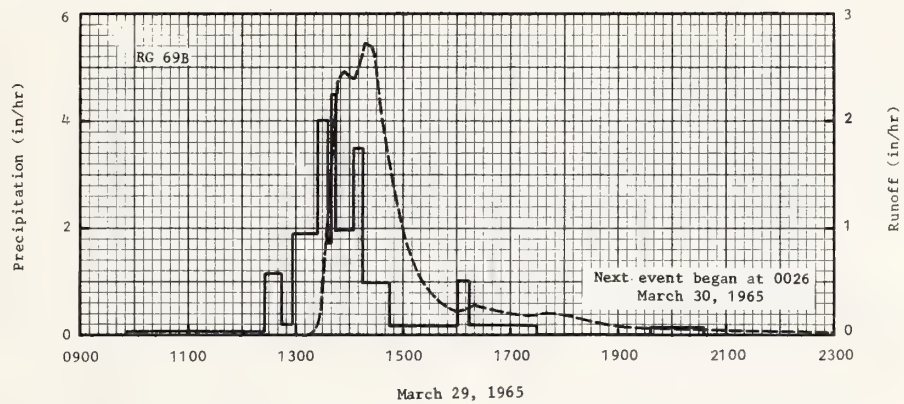


MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS		AREA — 20.8 ACRES		WATERSHED Y-8		42.16			
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1</sup> / <sub>Q</sub>	3.34	4.12	6.89	1.19	10.35	2.11	.37	2.30	5.09	1.98	5.01	2.43	45.18			
	.12	.04	3.79	.09	4.99	.29	.00	.00	.00	.00	.84	.02	10.18			
STA AVG <sup>2</sup> P (40-65) <sub>Q</sub>	1.97	2.75	2.24	3.83	3.87	4.02	1.47	1.88	2.59	2.91	3.10	2.35	32.98			
	.30	.37	.37	.69	.86	.56	.07	T	.14	.15	.46	.35	4.32			
MEAN P <sup>3</sup> / <sub>Q</sub> 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	2.25	3-29	1.53	3-29	1.99	3-29	2.68	3-29	2.96	3-29	3.59	3-29	3.77	3-29	3.88
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965 <sup>2</sup> / <sub>Q</sub>	6-10 1941	3.29	4-19 1957	2.41	4-19 1957	2.80	4-23 1957	3.32	4-23 1957	3.37	3-29 1965	3.59	11-22 1940	5.64	4-19 1957	9.10
NOTES: Watershed land use: 95% cotton; 3% pasture; 2% gravel roads. Cropland terraced and contour tilled; no change in conservation practices. <sup>1</sup> / Precipitation data obtained from rain gage 75A. <sup>2</sup> / Precipitation and runoff records began Mar. 1, 1939; station not in operation July 1943 to Jan. 1, 1949; part-year amounts not included in averages. <sup>3</sup> / Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sup>4</sup> / Maximums for 1939 occurred after Mar. 1; maximums for 1943 occurred before July; no maximums 1944 through 1948.																
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS		WATERSHED Y-8		42.16					
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG 75A		Event of March 29, 1965													
3-01	.05	.0000	3-29	RG	75A		3-29	1313	.0000	.0000						
3-03	.07	.0000		0956	.00	.00		1319	.0088	.0001						
3-11	.03	.0000		1139	.05	.08		1325	.1246	.0060						
3-12	.09	.0000		1159	.00	.08		1330	.2428	.0210						
3-16	.34	.0000		1221	.22	.17		1335	.3907	.0468						
3-17	.07	.0000		1241	1.11	.53		1340	.6789	.0892						
3-24	.04	.0000		1254	.27	.59		1345	1.0443	.1650						
3-25	.04	.0000		1313	1.69	1.13		1350	1.2916	.2616						
				1331	3.72	2.25		1355	1.3204	.3705						
				1352	2.31	3.06		1401	1.5106	.5113						
				1411	3.03	4.01		1405	1.7504	.6193						
				1423	1.60	4.33		1410	2.0007	.7758						
				1509	.47	4.70		1414	2.2489	.9190						
				1543	.00	4.70		1419	2.1051	1.1002						
				1729	.34	5.30		1425	1.9026	1.3019						
				2129	.05	5.51		1430	1.4183	1.4439						
								1440	.7389	1.6170						
								1447	.7735	1.7044						
								1500	.5200	1.8469						
								1510	.3471	1.9180						
								1530	.1983	2.0059						
								1553	.1203	2.0638						
								1611	.3353	2.1198						
								1621	.4714	2.1901						
								1638	.3111	2.3043						
								1703	.1511	2.3917						
								1735	.2571	2.4911						
								1758	.1469	2.5696						
								1923	.0511	2.6780						
								2033	.0981	2.7656						
								2103	.0662	2.8079						
								2233	.0364	2.8788						
								2400	5/.0264	2.9246						
Watershed conditions: 95% in beds, bare; 3% pasture, bermudagrass, good cover, dormant, lightly grazed; 2% gravel roads. Cropland terraced, contour cultivation.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 20.973. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 42.11-5. <sup>5</sup> / NEXT EVENT BEGAN AT 2400 MARCH 29, 1965.																



RIESEL (WACO), TEXAS WATERSHED Y-8

MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS		WATERSHED Y-10		42.17						
						AREA -- 18.6 ACRES										
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1</sup> / <sub>Q</sub>	3.39 .84	3.94 .56	6.76 4.64	1.16 .00	10.42 2.61	2.06 .49	.55 .00	2.38 .00	4.97 .00	1.96 .00	5.14 1.57	2.60 .05	45.33 10.76			
STA AVG P <sup>2</sup> / (39-65) <sub>Q</sub>	2.15 .37	2.62 .35	2.19 .42	3.76 .77	4.00 .80	3.73 .58	1.36 .09	1.87 .01	2.46 .19	2.66 .20	2.93 .40	2.32 .34	32.05 4.52			
MEAN P <sup>3</sup> / 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	3-29	2.73	3-29	2.40	3-29	3.36	3-29	4.13	3-29	4.27	3-29	4.62	3-29	4.64		
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965 <sup>4</sup>	4-19 1957	3.73	4-19 1957	2.90	4-19 1957	3.48	3-29 1965	4.13	3-29 1965	4.27	3-29 1965	4.62	4-23 1957	5.34	4-19 1957	10.57
NOTES:																
Watershed land use: 93% oats-clover; 4% pasture; 3% gravel roads. Cropland terraced and contour tilled; no change in conservation practices. <sup>1</sup> / Precipitation data from Thiessen method using rain gages 69 and 69B. <sup>2</sup> / Precipitation and runoff records began July 1, 1938; station not in operation July 1943 to May 1, 1946; part-year amounts not included in averages. <sup>3</sup> / Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sup>4</sup> / Maximums for 1943 occurred before July; maximums for 1946 occurred after May 1; no maximums 1938, 1944, and 1945.																
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS		WATERSHED Y-10		42.17						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	2 RG <sup>5</sup> / <sub></sub>		Event of March 29, 1965													
2-27	.00	T	3-29	RG	69B		3-29	1309	.0000	.0000						
3-01	.03	.0000		0956	.00	.00		1320	.0124	.0004						
3-03	.06	.0000		1226	.07	.18		1325	.0926	.0047						
3-12	.11	.0000		1244	1.13	.52		1330	.3255	.0210						
3-16	.34	.0000		1257	.20	.57		1335	.8895	.0694						
3-17	.06	.0000		1324	1.90	1.42		1340	1.5629	.1720						
3-24	.04	.0000		1336	4.02	2.23		1345	2.0943	.3246						
3-25	.05	.0000		1340	1.72	2.34		1350	2.3988	.5142						
				1344	4.52	2.64		1355	2.4688	.7186						
				1404	1.93	3.29		1400	2.4272	.9219						
			1414	3.49	3.87		1407	2.4014	1.2050							
			1446	.97	4.38		1412	2.5316	1.4095							
			1602	.16	4.59		1418	2.7263	1.6737							
			1616	1.03	4.83		1425	2.6859	1.9901							
			1730	.20	5.07		1431	2.4376	2.2478							
			1938	.02	5.13		1435	2.1634	2.4015							
			2036	.12	5.24		1441	1.7867	2.5993							
			2400	.01	5.28		1451	1.3232	2.8581							
			RG	69	5.95		1500	1.0485	3.0335							
			2 RG	AVG <sup>5</sup> / <sub></sub>	5.52		1519	.5888	3.2865							
							1540	.3451	3.4455							
							1608	.2195	3.5673							
							1620	.2740	3.6154							
							1651	.2282	3.7489							
							1721	.1796	3.8479							
							1741	.2078	3.9149							
							1831	.1170	4.0551							
							1901	.0797	4.1041							
							2111	.0307	4.2060							
							2400	<sup>5</sup> / <sub>0083</sub>	4.2534							
Watershed conditions: 93% oats-clover, 4 to 6 inches high; 4% pasture, bermuda-grass, good cover, dormant, lightly grazed; 3% gravel roads. Cropland terraced, contour cultivation.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 18.755. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 42.11-5. <sup>5</sup> / THIESSEN WEIGHTED RAINFALL USING RAIN GAGES 69 AND 69B. <sup>6</sup> / NEXT EVENT BEGAN AT 0026 MARCH 30, 1965.																



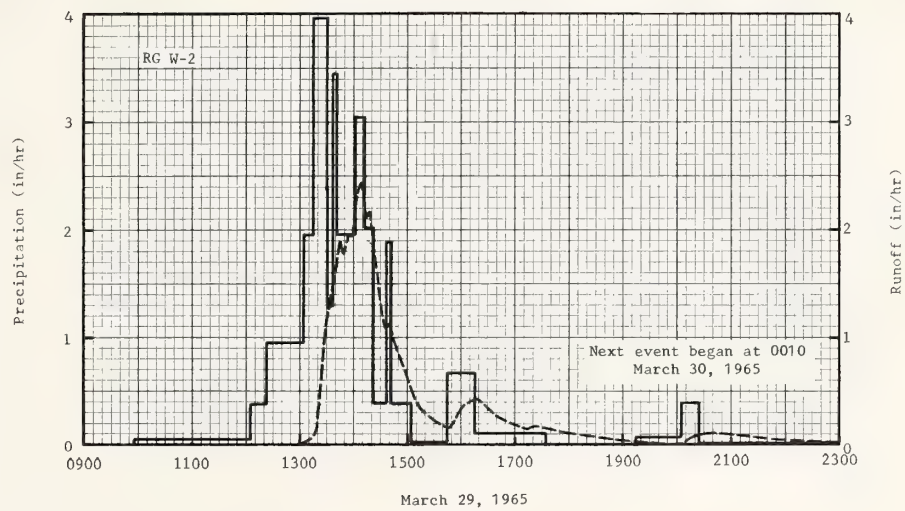
RIESEL (WACO), TEXAS WATERSHED Y-10



MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS AREA — 2.97 ACRES								WATERSHED SW-12 42.24		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> Q	3.37 .07	4.04 .38	6.87 5.40	1.10 .01	10.47 4.61	2.04 .26	.51 .00	2.85 .00	4.98 .00	1.99 .00	5.10 .01	2.59 .00	45.91 10.74			
STA AVG P (38-65) <sub>2</sub>	2.15 .36	2.68 .45	2.16 .37	3.77 .47	3.95 .57	3.82 .28	1.40 T	1.83 T	2.43 .04	2.66 .01	2.91 .17	2.26 .28	32.02 3.00			
MEAN P <sub>3</sub> 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	4.00	3-29	3.07	3-29	3.83	3-29	4.62	3-29	4.80	3-29	5.34	3-29	5.39	3-29	5.42
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965 <sub>4</sub>	3-29 1965	4.00	3-29 1965	3.07	3-29 1965	3.83	3-29 1965	4.62	3-29 1965	4.80	3-29 1965	5.34	3-29 1965	5.39	4-19 1957	8.53E
NOTES:																
Watershed land use: 100% native grass meadow mowed annually for hay. 1/ Precipitation data obtained from rain gage 70. 2/ Precipitation and runoff records began Jan. 1, 1938; station not in operation July 1943 to June 1, 1947; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1943 occurred before July; no maximums for 1944 through 1947.																
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS								WATERSHED SW-12 42.24		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of March 29, 1965																
3-01	.05	.0000	3-29	RG	70		3-29	1231	.0006	.0000						
3-03	.09	.0000		0958	.00	.00		1310	.0127	.0026						
3-12	.12	.0000		1231	.07	.18		1315	.0217	.0040						
3-16	.34	.0000		1244	1.28	.46		1320	.0815	.0075						
3-17	.07	.0000		1258	.26	.52		1325	.4526	.0272						
3-24	.03	.0000		1315	1.98	1.08		1330	1.8885	.1168						
3-25	.07	.0000		1323	2.33	1.39		1337	3.3513	.4323						
				1329	5.10	1.90		1340	3.2864	.5982						
				1335	3.40	2.24		1344	3.5508	.8229						
				1339	2.40	2.40		1351	3.2075	1.2142						
				1343	4.20	2.68		1355	2.7454	1.4105						
				1347	2.85	2.87		1400	2.6011	1.6333						
				1355	1.28	3.04		1404	2.4366	1.8013						
				1401	2.50	3.29		1408	2.9222	1.9742						
				1405	3.00	3.49		1411	3.4323	2.1316						
Watershed conditions: 100% native grass meadow, dense cover, 2 inches high, dormant, not grazed.																
				1411	4.00	3.88		1414	4.0046	2.3196						
				1421	2.28	4.26		1418	3.6930	2.5785						
				1445	.75	4.56		1425	2.9315	2.9736						
				1507	.37	4.70		1429	2.2235	3.1467						
				1547	.01	4.71		1435	1.4383	3.3296						
				1617	.74	5.07		1441	.9466	3.4467						
				1731	.24	5.37		1445	.8964	3.5075						
				1927	.00	5.37		1451	.7179	3.5876						
				1947	.23	5.45		1503	.5744	3.7153						
				2400	.03	5.56		1513	.3908	3.7962						
								1531	.1933	3.8799						
								1552	.0920	3.9263						
								1614	.3089	3.9848						
								1624	.5979	4.0661						
								1639	.3639	4.1909						
								1705	.1349	4.2830						
								1725	.2819	4.3406						
								1735	.4424	4.4055						
								1749	.3089	4.4958						
								1815	.1003	4.5761						
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 2.9947. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, MISC. PUB. 945, P. 42.24-4.																

1965			SELECTED RUNOFF EVENT				RIESEL (WACO), TEXAS				WATERSHED SW-12		42.24	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)				
			Event of March 29, 1965 - Continued											
							3-29	1923	.0228	4.6295				
								1948	.0492	4.6423				
								2028	.0685	4.6824				
								2128	.0343	4.7338				
								2233	.0215	4.7618				
								2400	1/.0113	4.7858				

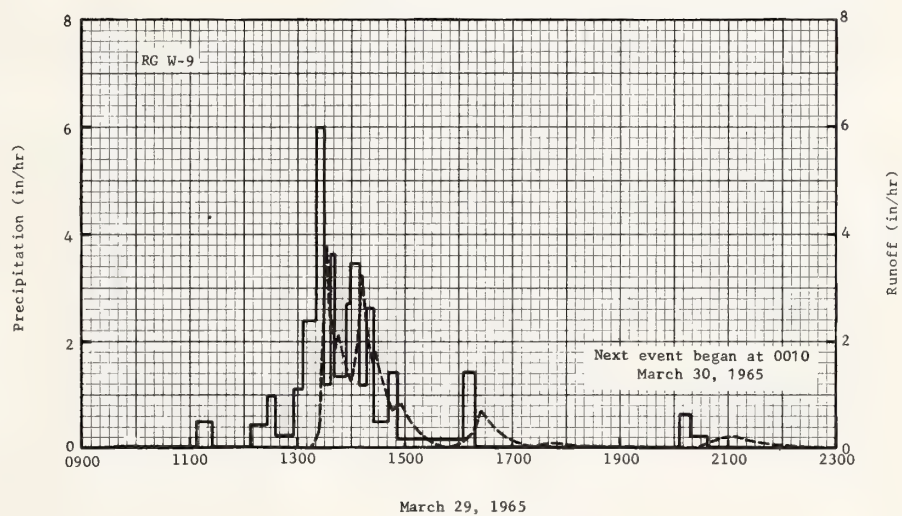
MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS							WATERSHED SW-17		42.28
							AREA — 2.99 ACRES									
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1</sup> / <sub>Q</sub>	3.42 .37	4.20 .18	6.82 4.30	1.33 .07	10.22 3.54	2.27 .79	.43 .00	2.24 .00	5.09 .00	2.02 .00	5.33 .64	2.38 .00	45.75 9.89			
STA AVG P <sup>2</sup> / <sub>(40-65)</sub>	2.01 .36	2.78 .53	2.18 .50	3.93 .85	3.90 .80	3.82 .74	1.49 .12	1.94 T	2.61 .21	2.95 .20	3.09 .52	2.37 .50	33.07 5.33			
MEAN P <sup>3</sup> / <sub>77 YR</sub>	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	2.44	3-29	1.88	3-29	2.63	3-29	3.29	3-29	3.52	3-29	4.25	3-29	4.30	3-29	4.32
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	10-31 1940	7.06	4-19 1957	2.54	4-19 1957	2.96	4-23 1957	3.31	3-29 1965	3.52	3-29 1965	4.25	11-22 1940	5.37	4-19 1957	9.42
NOTES:																
Watershed land use: 100% bermudagrass pasture. 1/ Precipitation data obtained from rain gage W-2.																
2/ Precipitation and runoff records began Feb. 1, 1939; station not in operation July 1943 to Jan. 1, 1948; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1939 occurred after Feb.; maximums for 1943 occurred before July; no maximums 1944 through 1947.																
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS							WATERSHED SW-17		42.28
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG W-2		Event of March 29, 1965													
2-27	.00	.0037	3-29	RG	W-2		3-29	1220	.0000	.0000						
2-28	.00	.0022		0954	.00	.00		1308	.0136	.0026						
3-01	.05	.0014		1205	.04	.10		1315	.0418	.0053						
3-02	.00	.0002		1223	.37	.21		1320	.2028	.0138						
3-03	.09	.0000		1305	.95	.88		1325	.7440	.0513						
3-11	.02	.0000		1315	1.96	1.20		1330	1.2027	.1321						
3-12	.07	.0000		1331	3.97	2.26		1335	1.3351	.2375						
3-16	.29	.0000		1337	1.29	2.39		1341	1.6475	.3922						
3-17	.10	.0000		1341	3.45	2.62		1347	1.8881	.5692						
3-24	.03	.0000		1403	1.96	3.34		1349	1.7763	.6302						
3-25	.07	.0000		1413	3.04	3.85		1355	1.9383	.8155						
				1421	2.02	4.11		1400	1.9580	.9778						
				1437	.39	4.22		1406	2.3455	1.1943						
				1441	1.89	4.34		1410	2.4395	1.3543						
				1505	.37	4.49		1416	2.1101	1.5795						
				1545	.02	4.50		1419	2.1796	1.6879						
				1615	.67	4.84		1425	1.6995	1.8807						
				1735	.11	4.99		1431	1.3076	2.0316						
				1915	.00	5.00		1437	1.0715	2.1485						
				2005	.07	5.06		1440	1.1108	2.2033						
				2025	.40	5.19		1449	.8952	2.3524						
				2400	.02	5.26		1501	.6213	2.5019						
								1518	.3213	2.6328						
								1534	.2083	2.7014						
								1549	.1630	2.7461						
								1600	.3224	2.8171						
								1619	.4306	2.8764						
								1634	.2937	2.9691						
								1714	.1424	3.1011						
								1726	.1813	3.1331						
								1759	.1188	3.2163						
								1934	.0046	3.3046						
								2004	.0089	3.3081						
								2036	.1122	3.3508						
								2104	.0839	3.3976						
								2144	.0463	3.4398						
								2400	.0169	3.5033						
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.0149. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 42.6-6 (REVISED). 5/ NEXT EVENT BEGAN AT 0010 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED SW-17

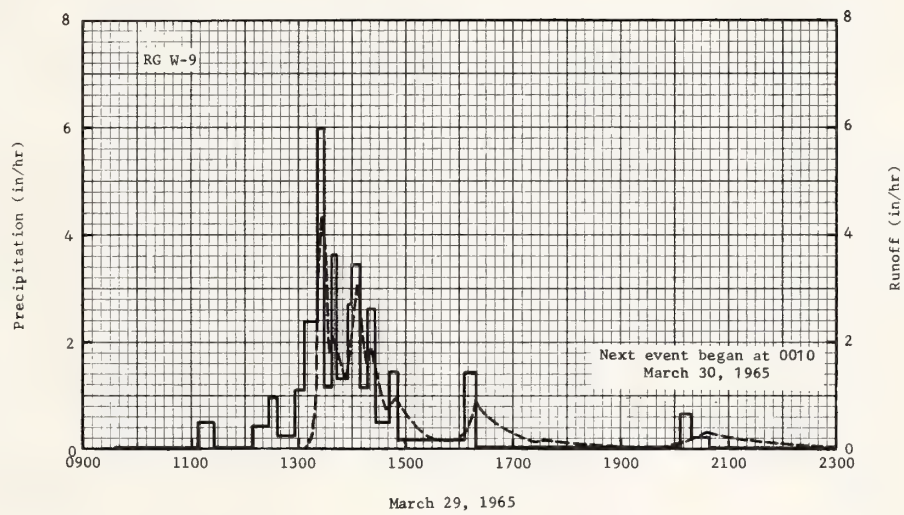


MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS							WATERSHED P-1		42.31
							AREA — 0.243 ACRE									
MONTH YEAR	JAN	FEB	MAR	APR	MAY		JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965 P <sup>1</sup> / <sub>Q</sub>	3.44 .09	4.61 .21	7.42 4.63	1.48 .02	10.93 3.74		2.22 .38	.46 .00	2.36 .00	4.46 .00	2.09 .00	5.28 .02	2.38 .00	47.13 9.09		
STA AVG P <sup>2</sup> / <sub>Q</sub> (38-65)	2.58 .45	3.01 .49	2.27 .54	3.14 .19	3.47 .56		4.74 .82	1.25 .04	1.91 .00	2.65 .13	2.70 .01	3.68 .42	2.82 .34	34.22 3.99		
MEAN P <sup>3</sup> / <sub>77 YR</sub>	2.17	2.40	2.78	4.11	4.64		3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	3.79	3-29	2.16	3-29	2.93	3-29	3.42	3-29	3.64	3-29	4.63	3-29	4.63	3-29	4.63
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965	6-10 1941	7.18	3-29 1965	2.16	3-29 1965	2.93	3-29 1965	3.42	3-29 1965	3.64	3-29 1965	4.63	3-29 1965	4.63	3-29 1965	4.63
NOTES:																
Watershed land use: 100% bermudagrass and buffalograss pasture, heavily grazed. 1/ Precipitation data obtained from rain gage W-9. 2/ Precipitation and runoff records began Jan. 1, 1938; station not in operation July 1943 to Jan. 1, 1960; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1943 occurred before July; no maximums 1944 through 1959.																
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS						WATERSHED P-1		42.31		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of March 29, 1965																
3-01	RG W-9 .04	.0000	3-29	RG W-9	.00	.00	3-29	1313	.0000	.0000						
3-03	.10	.0000		0935	.03	.04		1315	.0150	.0003						
3-11	.03	.0000		1107	.03	.04		1320	.1073	.0040						
3-12	.05	.0000		1125	.51	.19		1325	.5342	.0273						
3-16	.27	.0000		1208	.04	.22		1330	2.9889	.1633						
3-17	.07	.0000		1225	.46	.35		1333	3.7889	.3386						
3-24	.04	.0000		1235	.95	.51		1336	3.3925	.5206						
3-25	.08	.0000		1255	.24	.59		1340	2.2760	.7086						
Watershed conditions: 100% pasture, bermudagrass and buffalograss, 2 inches high, dormant, dense cover, grazed.				1305	1.09	.77		1343	1.8339	.8083						
				1321	2.39	1.41		1345	2.1169	.8738						
				1329	5.99	2.21		1350	1.7942	1.0399						
				1337	1.19	2.36		1354	1.5736	1.1512						
				1341	3.62	2.61		1400	1.2247	1.2867						
				1355	1.33	2.92		1405	1.7550	1.4119						
				1359	2.69	3.09		1410	2.6630	1.5875						
				1409	3.46	3.67		1413	3.2145	1.7323						
				1417	1.15	3.82		1415	2.6531	1.8281						
				1425	2.63	4.17		1420	1.8741	2.0177						
				1441	.52	4.31		1423	1.6031	2.1032						
				1451	1.43	4.55		1427	1.8259	2.2172						
				1605	.16	4.74		1435	1.3023	2.4254						
				1619	1.45	5.08		1445	.7066	2.5920						
				2005	.05	5.27		1450	.8045	2.6525						
				2019	.66	5.43		1455	.8323	2.7205						
				2039	.23	5.50		1500	.6726	2.7838						
				2245	.03	5.57		1509	.4729	2.8666						
								1518	.3093	2.9258						
								1533	.1073	2.9734						
								1548	.0497	2.9914						
								1619	.3468	3.0357						
								1626	.7282	3.1074						
								1643	.3439	3.2617						
								1723	.0517	3.3529						
								1743	.0779	3.3737						
								1808	.0487	3.3997						
								2023	.0053	3.4314						
								2047	.1206	3.4431						
								2101	.2077	3.4828						
								2123	.1286	3.5471						
								2228	.0181	3.6074						
								2400	5/ .0082	3.6298						
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 0.245. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 42.31-4. 5/ NEXT EVENT BEGAN AT 0010 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED P-1

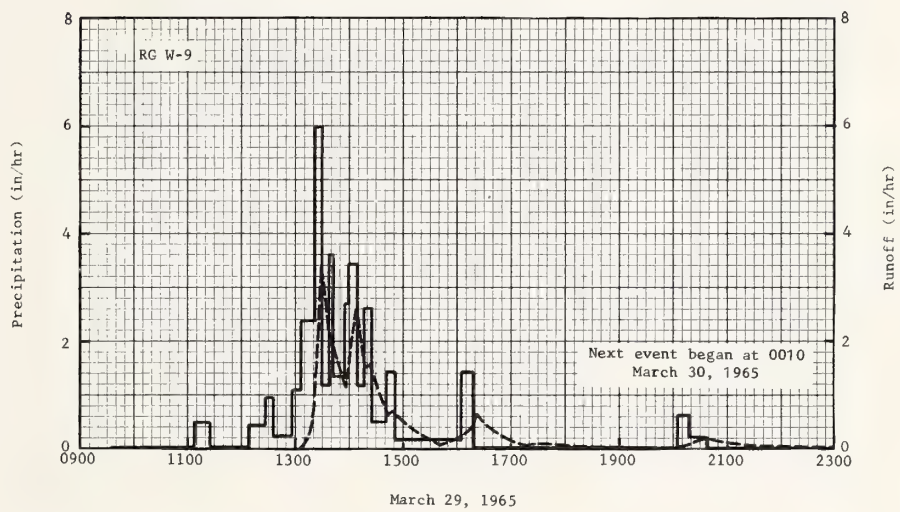
MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS		WATERSHED P-2		42.32					
							AREA — 0.243 ACRE									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>1</sup> / <sub>0</sub>	3.44	4.61	7.42	1.48	10.93	2.22	.46	2.36	4.46	2.09	5.28	2.38	47.13		
	Q	.16	.58	6.23	.12	3.95	.38	.00	.00	.00	.00	.01	.00	11.43		
STA AVG P (38-65) <sub>0</sub>		2.45	3.01	2.38	3.31	3.33	4.98	1.34	1.84	2.88	2.76	3.80	2.98	35.06		
MEAN P <sup>2</sup> / <sub>77 YR</sub>		.54	.64	.80	.26	.58	1.13	.09	.00	.22	.05	.69	.57	5.57		
77 YR		2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	4.33	3-29	2.24	3-29	3.11	3-29	3.94	3-29	4.50	3-29	6.22	3-29	6.22	3-29	6.24
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965 <sup>3</sup> / <sub>0</sub>	6-10 1941	6.65	3-29 1965	2.24	3-29 1965	3.11	3-29 1965	3.94	3-29 1965	4.50	3-29 1965	6.22	3-29 1965	6.22	3-29 1965	6.24
NOTES:																
Watershed land use: 100% bermudagrass and buffalograss pasture, heavily grazed. <sup>1</sup> / Precipitation data obtained from rain gage W-9. <sup>2</sup> / Precipitation and runoff records began Jan. 1, 1938; runoff record lost May 16-20, 1939, which was only runoff that year; station not in operation July 1943 to Jan. 1, 1960; part-year amounts not included in averages. <sup>3</sup> / Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sup>4</sup> / Maximums for 1943 occurred before July; no maximums for 1939 and 1944 through 1959.																
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS		WATERSHED P-2		42.32					
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
RG W-9			Event of March 29, 1965													
3-01	.04	.0000	3-29	RG	W-9		3-29	1305	.0000	.0000						
3-03	.10	.0000		0935	.00	.00		1308	.0096	.0002						
3-11	.03	.0000		1107	.03	.04		1315	.2483	.0149						
3-12	.05	.0000		1125	.51	.19		1320	1.4942	.0679						
3-16	.27	.0000		1208	.04	.22		1323	3.2806	.1941						
3-17	.07	.0000		1225	.46	.35		1325	4.3259	.3198						
3-24	.04	.0000		1235	.95	.51		1327	3.8251	.4560						
3-25	.08	.0000		1255	.24	.59		1330	3.0100	.6257						
				1305	1.09	.77		1335	1.8259	.8222						
				1321	2.39	1.41		1338	2.0996	.9201						
Watershed conditions: 100%				1329	5.99	2.21		1345	1.6781	1.1382						
pasture, bermudagrass and				1337	1.19	2.36		1352	1.3089	1.3106						
buffalograss, 2 inches high,				1341	3.62	2.61		1400	2.2670	1.5421						
dormant, dense cover, grazed.				1355	1.33	2.92		1405	3.0738	1.7734						
				1359	2.69	3.09		1410	2.3489	2.0040						
				1409	3.46	3.67		1416	1.6328	2.1926						
				1417	1.15	3.82		1420	1.8741	2.3101						
				1425	2.63	4.17		1430	1.2567	2.5700						
				1441	.52	4.31		1438	.7726	2.7024						
				1451	1.43	4.55		1441	.7953	2.7416						
				1605	.16	4.74		1448	.9435	2.8463						
				1619	1.45	5.08		1454	.7862	2.9322						
				2005	.05	5.27		1500	.6354	3.0035						
				2019	.66	5.43		1510	.4319	3.0944						
				2039	.23	5.50		1521	.2508	3.1559						
				2245	.03	5.57		1541	.1339	3.2138						
								1610	.3803	3.2998						
								1618	.8750	3.3924						
								1630	.6273	3.5464						
								1724	.1339	3.7643						
								1731	.1728	3.7829						
								1801	.1117	3.8533						
								1931	.0355	3.9527						
								2017	.1855	3.9958						
								2036	.3206	4.0783						
								2051	.2335	4.1480						
								2201	.0868	4.3087						
								2400	<sup>5</sup> / .0447	4.4444						
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 0.245. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 42.31-4. <sup>5</sup> / NEXT EVENT BEGAN AT 0010 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED P-2

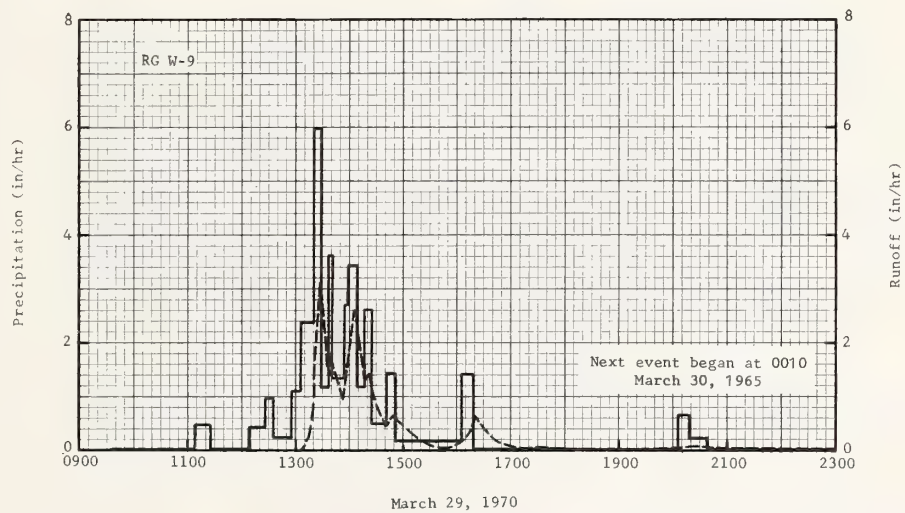


MONTHLY PRECIPITATION AND RUNOFF (inches)							RIESEL (WACO), TEXAS				WATERSHED P-3				42.33	
							AREA — 0.243 ACRE									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>1</sup> / <sub>9</sub>	3.44	4.61	7.42	1.48	10.93	2.22	.46	2.36	4.46	2.09	5.28	2.38	47.13		
		.33	.88	4.32	.17	5.58	.50	.00	.00	.00	.00	.29	.02	12.09		
	STA AVG P (38-65) <sup>2</sup> / <sub>9</sub>	2.58	3.01	2.27	3.14	3.47	4.74	1.25	1.91	2.65	2.70	3.68	2.82	34.22		
	MEAN P <sup>3</sup> / <sub>9</sub>	.54	.62	.56	.26	.82	1.04	.07	.00	.19	.09	.58	.46	5.23		
	77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	3.35	3-29	1.99	3-29	2.69	3-29	3.20	3-29	3.43	3-29	4.27	3-29	4.32	5-10	4.60
MAXIMUMS FOR PERIOD OF RECORD																
1938 TO 1965 <sup>4</sup> / <sub>9</sub>	6-10 1941	7.63	6-10 1941	2.13	3-29 1965	2.69	3-29 1965	3.20	3-29 1965	3.43	3-29 1965	4.27	11-22 1940	5.34	11-22 1940	5.93
NOTES:																
Watershed land use: 100% bermudagrass and buffalograss pasture, lightly grazed. <sup>1</sup> / Precipitation data obtained from rain gage W-9. <sup>2</sup> / Precipitation and runoff records began Jan. 1, 1938; station not in operation July 1943 to Jan. 1, 1960; part-year amounts not included in averages. <sup>3</sup> / Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. <sup>4</sup> / Maximums for 1943 occurred before July; no maximums 1944 through 1959.																
1965 SELECTED RUNOFF EVENT							RIESEL (WACO), TEXAS				WATERSHED P-3				42.33	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG W-9		Event of March 29, 1965													
3-01	.04	.0000	3-29	RG	W-9		3-29	1304	.0000	.0000						
3-03	.10	.0000		0935	.00	.00		1308	.0214	.0005						
3-11	.03	.0000		1107	.03	.04		1311	.1251	.0036						
3-12	.05	.0000		1125	.51	.19		1315	.3121	.0175						
3-16	.27	.0000		1208	.04	.22		1320	.8045	.0605						
3-17	.07	.0000		1225	.46	.35		1325	2.6531	.2061						
3-24	.04	.0000		1235	.95	.51		1329	3.3475	.4144						
3-25	.08	.0000		1255	.24	.59		1332	2.9575	.5736						
				1305	1.09	.77		1335	2.2134	.7042						
				1321	2.39	1.41		1341	1.8660	.9031						
			1329	5.99	2.21		1347	1.5372	1.0707							
			1337	1.19	2.36		1354	1.1374	1.2218							
			1341	3.62	2.61		1402	1.9809	1.4244							
			1355	1.33	2.92		1407	2.5751	1.6177							
			1359	2.69	3.09		1410	2.3858	1.7421							
			1409	3.46	3.67		1417	1.5084	1.9601							
			1417	1.15	3.82		1421	1.5809	2.0626							
			1425	2.63	4.17		1431	1.0421	2.2839							
			1441	.52	4.31		1442	.6033	2.4279							
			1451	1.43	4.55		1449	.6895	2.5057							
			1605	.16	4.74		1503	.4556	2.6408							
			1619	1.45	5.08		1543	.0730	2.7767							
			2005	.05	5.27		1614	.3803	2.8353							
			2019	.66	5.43		1623	.6436	2.9188							
			2039	.23	5.50		1632	.4089	2.9977							
			2245	.03	5.57		1718	.0603	3.1104							
							1733	.0881	3.1276							
							1803	.0559	3.1642							
							1953	.0122	3.2101							
							2015	.0538	3.2181							
							2028	.1432	3.2409							
							2038	.1728	3.2675							
							2048	.1395	3.2935							
							2131	.0391	3.3494							
							2400	<sup>5</sup> / <sub>9</sub> .0150	3.4139							
Watershed conditions: 100% pasture, bermudagrass and buffalograss, 2 to 6 inches high, dormant, dense cover, not grazed.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 0.245. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 42.31-4. <sup>5</sup> / NEXT EVENT BEGAN AT 0010 MARCH 30, 1965.																



RIESEL (WACO), TEXAS WATERSHED P-3

MONTHLY PRECIPITATION AND RUNOFF (inches)						RIESEL (WACO), TEXAS						WATERSHED P-4		42.34			
						AREA — 0.243 ACRE											
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965 P1 Q	3.44 .32	4.61 .60	7.42 3.74	1.48 .18	10.93 3.96	2.22 .26	.46 .00	2.36 .00	4.46 .00	2.09 .00	5.28 .09	2.38 .08	47.13 9.23				
STA AVG P (38-65) Q	2.58 .61	3.01 .65	2.27 .50	3.14 .21	3.47 .56	4.74 1.02	1.25 .07	1.91 .00	2.65 .17	2.70 .04	3.68 .67	2.82 .67	34.22 5.17				
MEAN 77 YR	2.17	2.40	2.78	4.11	4.64	3.28	1.91	1.92	2.85	2.61	2.51	2.58	33.76				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	3-29	3.14	3-29	1.82	3-29	2.43	3-29	2.86	3-29	3.01	3-29	3.70	3-29	3.73	3-29	3.89	
MAXIMUMS FOR PERIOD OF RECORD																	
1938 TO 1965 5/	6-10 1941	7.79	11-22 1940	2.15	3-29 1965	2.43	3-29 1965	2.86	3-29 1965	3.01	3-29 1965	3.70	11-22 1940	5.69	11-22 1940	6.26	
NOTES:																	
Watershed land use: 100% bermudagrass and buffalograss pasture, lightly grazed. 1/ Precipitation data obtained from rain gage W-9. 2/ Precipitation and runoff records began Jan. 1, 1938; station not in operation July 1943 to Jan. 1, 1960; part-year amounts not included in averages. 3/ Mean P based on 77-yr (1889-1965) U. S. Weather Bureau record period at Waco, Texas. 4/ Maximums for 1943 occurred before July; no maximums 1944 through 1959.																	
1965 SELECTED RUNOFF EVENT						RIESEL (WACO), TEXAS						WATERSHED P-4		42.34			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							
Event of March 29, 1965																	
3-01	RG W-9 .04	.0000	3-29	RG	W-9		3-29	1302	.0000	.0000							
3-03	.10	.0000		0935	.00	.00		1306	.0250	.0007							
3-11	.03	.0000		1107	.03	.04		1310	.1267	.0057							
3-12	.05	.0000		1125	.51	.19		1315	.2610	.0236							
3-16	.27	.0000		1208	.04	.22		1320	.9636	.0623							
3-17	.07	.0000		1225	.46	.35		1325	2.7525	.2195							
3-24	.04	.0000		1235	.95	.51		1327	3.1383	.3189							
3-25	.08	.0000		1255	.24	.59		1330	2.8335	.4687							
				1305	1.09	.77		1333	2.0739	.5911							
				1321	2.39	1.41		1336	1.5809	.6809							
				1329	5.99	2.21		1338	1.7395	.7356							
				1337	1.19	2.36		1346	1.3422	.9413							
				1341	3.62	2.61		1353	.9586	1.0713							
				1355	1.33	2.92		1400	1.8903	1.2395							
				1359	2.69	3.09		1406	2.6335	1.4778							
				1409	3.46	3.67		1410	1.9892	1.6316							
				1417	1.15	3.82		1416	1.2892	1.7882							
				1425	2.63	4.17		1421	1.4309	1.9022							
				1441	.52	4.31		1426	1.1620	2.0083							
				1451	1.43	4.55		1431	.8991	2.0938							
				1605	.16	4.74		1441	.5085	2.2024							
				1619	1.45	5.08		1449	.6643	2.2835							
				2005	.05	5.27		1501	.3961	2.3887							
				2019	.66	5.43		1546	.0570	2.5056							
				2039	.23	5.50		1613	.3528	2.5523							
				2245	.03	5.57		1620	.6153	2.6144							
								1626	.5049	2.6706							
								1641	.1687	2.7478							
								1721	.0419	2.8009							
								1731	.0671	2.8089							
								1801	.0391	2.8376							
								1901	.0091	2.8585							
								1936	.0355	2.8676							
								2001	.0570	2.8874							
								2031	.0706	2.9167							
								2041	.0528	2.9277							
								2201	.0187	2.9801							
								2400	5/.0061	3.0051							
Watershed conditions: 100% pasture, bermudagrass and buffalograss, 2 to 6 inches high, dormant, dense cover, not grazed.																	
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 0.245. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 42.31-4. 5/ NEXT EVENT BEGAN AT 0010 MARCH 30, 1965.																	



RIESEL (WACO), TEXAS WATERSHED P-4



MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA AREA — 481 ACRES WATERSHED W-3										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P/ Q	2/ 1.01 .00	2/ 1.37 .45	2/ 1.57 .35	2.06 .05	11.03 5.54	7.79 2.13	4.19 .51	1.62 T	4.32 .21	.45 .00	2/ .14 .00	2/ .57 .00	36.12 9.24			
STA AVG (39-65) P Q	.32 .01	.51 .06	1.15 .19	1.98 .10	3.66 .70	4.95 1.19	2.86 .49	2.72 .24	2.65 .39	1.10 .11	.61 .03	.38 .00	22.89 3.51			
MEAN P 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-22	1.82	5-21	1.21	5-21	1.74	5-21	2.49	5-21	4.43	5-21	4.82	5-21	4.82	5-21	5.55
MAXIMUMS FOR PERIOD OF RECORD																
19 40 TO 65	7-3 1959	2.00	7-3 1959	1.32	5-21 1965	1.74	5-21 1965	2.49	5-21 1965	4.43	5-21 1965	4.82	5-21 1965	4.82	5-21 1965	5.55
NOTES: Watershed conditions: Crops including wheat, corn, sorghum, alfalfa and meadow were in good condition. Fallow fields had no cover. Pastures good to excellent. 1/ Arithmetic averages of rain gages A-12-R, B-10-R, B-31-R and meteorological station. 2/ Based on meteorological station records. 3/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																

DAILY AIR TEMPERATURE (degrees F)														HASTINGS, NEBRASKA WATERSHED W-3 44.1											
DAY	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC		
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	
1	46	32	40	-5	49	17	69	33	88	50	80	59	78	62	78	56	69	46	61	38	60	31	48	17	
2	38	14	14	0	26	12	52	36	89	56	82	56	91	63	83	59	80	56	72	39	64	37	49	22	
3	40	12	25	1	24	9	46	38	87	50	79	58	78	60	88	59	82	55	79	40	74	44	55	25	
4	39	19	17	1	27	20	51	38	70	53	83	61	83	60	92	64	83	53	70	43	67	25	55	24	
5	49	20	36	24	32	25	48	39	84	57	76	58	84	63	93	65	80	45	76	49	57	32	66	26	
6	44	20	40	31	44	30	49	34	74	57	74	48	82	61	90	62	63	46	76	49	69	38	56	23	
7	46	25	39	24	41	20	65	40	85	63	74	52	82	62	88	61	61	59	73	50	67	40	47	25	
8	49	12	31	10	44	24	68	46	82	57	84	52	85	65	79	53	65	53	72	47	65	37	55	24	
9	23	-3	28	19	32	20	55	42	78	39	75	57	90	63	83	59	75	56	73	47	42	18	53	24	
10	22	-1	32	20	36	20	62	53	64	40	75	57	88	63	87	58	80	52	84	43	41	33	51	35	
11	45	7	23	7	37	23	70	42	69	49	76	61	84	63	87	59	70	44	83	40	48	32	57	36	
12	45	15	15	-3	48	22	60	40	73	45	80	61	83	69	94	65	77	53	63	30	52	36	45	29	
13	39	4	16	-1	49	28	49	33	81	55	80	58	95	67	97	63	86	56	73	33	50	26	39	23	
14	32	6	17	0	40	21	51	41	76	55	76	61	83	58	93	60	74	57	72	43	58	18	38	22	
15	50	27	30	13	54	24	70	49	69	53	78	54	82	57	91	60	81	40	73	51	51	25	27	12	
16	29	-3	21	3	50	28	59	36	64	45	77	55	87	60	87	60	70	49	72	57	74	32	29	10	
17	28	2	27	3	45	15	77	37	73	52	76	55	92	68	89	61	57	37	76	58	45	19	32	12	
18	51	15	39	25	19	4	68	39	82	54	75	53	92	69	90	63	49	39	78	55	34	20	37	17	
19	40	21	43	24	18	3	61	38	66	48	79	63	85	67	79	60	60	45	65	45	57	27	41	15	
20	48	15	43	29	25	8	74	49	69	51	87	65	87	68	85	64	57	45	58	41	63	30	47	25	
21	46	19	52	10	32	13	82	53	79	62	81	53	90	70	69	60	50	42	62	33	58	33	50	26	
22	57	27	23	11	45	19	75	49	70	58	86	61	95	66	68	54	61	39	59	30	59	30	55	25	
23	32	18	31	0	35	8	85	53	77	55	85	65	96	63	71	55	63	43	72	39	59	33	54	29	
24	19	2	19	-12	15	2	45	40	78	67	81	56	99	65	76	59	50	29	60	28	62	35	38	21	
25	35	10	21	-5	12	0	65	37	72	53	71	57	75	59	85	61	64	36	61	29	61	30	26	10	
26	26	9	40	21	14	-6	51	34	78	54	78	61	83	61	91	63	66	33	70	36	41	30	26	16	
27	25	2	49	27	32	27	60	38	67	41	81	71	84	63	89	58	58	34	70	38	35	22	29	3	
28	37	2	57	33	43	29	53	31	64	40	86	61	78	58	79	49	69	55	71	36	49	21	29	9	
29	18	3	---	---	39	21	66	39	65	48	80	60	78	57	75	59	70	47	61	35	42	17	39	31	
30	23	-6	---	---	35	24	85	44	77	53	83	63	80	59	92	62	67	38	71	40	34	11	47	30	
31	18	2	---	---	46	31	---	---	84	58	---	---	81	59	78	48	---	---	77	40	---	---	---	55	26
AV.	37	11	31	11	35	17	62	41	75	54	80	58	85	63	85	59	69	46	70	41	55	29	44	22	
MEAN	24.0		21.0		26.3		51.5		63.7		68.8		74.2		72.0		57.3		55.9		41.7		33.0		
STA AV																									
NOTES: TEMPERATURE DATA FROM METEOROLOGICAL STATION FOR 24 HOURS ENDING 0800.																									

1965 DAILY PRECIPITATION (inches)						HASTINGS, NEBRASKA						
						WATERSHED W-3 44.1						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.00	.00	T	.00	.00	1.03	.59	.00	.00	.00	.00	.00
2	.00	.00	.00	.32	.00	.18	.39	.00	.00	.00	.00	.00
3	.00	.00	.00	.21	.00	.00	.52	.00	.38	.00	.00	.00
4	.00	.00	.00	.38	.51	.00	.00	.00	.11	.00	.00	.00
5	.00	.00	.00	.00	.15	.42	.25	T	.17	.00	.00	.00
6	.00	.00	.00	.00	.00	.16	.00	T	.38	.00	.00	.00
7	.00	.00	.00	.07	.86	.05	.00	T	.00	.00	.00	.00
8	.00	.06	.00	.05	.03	.00	.00	.00	.05	.00	.00	.00
9	.00	.56	.00	.00	.00	.79	.00	.00	.00	.00	.00	.04
10	.00	.05	.00	.07	.00	.40	.23	.00	.00	.00	.00	.25
11	.00	.09	.00	.00	.00	.11	.10	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	1.59	.00	.00	.00	.00	T	.00
13	.00	.00	.00	.00	.04	.17	.00	.00	.00	.00	.00	.04
14	.06	.00	.02	.33	.71	.00	.00	.00	.07	.00	.00	.00
15	T	.01	.00	.00	.00	.00	.29	.00	.00	.00	.00	.00
16	.00	.00	1.37	.00	.00	.00	.00	T	.00	.00	.00	.05
17	.00	.00	.00	.00	.24	.00	.03	.04	.09	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.26	.22	.51	.00	.00
19	.00	.00	.00	.00	.00	.00	.17	.06	.40	.03	.00	.00
20	.00	.00	.02	.00	.00	.00	.00	.76	1.79	.00	.00	.00
21	.00	T	.00	.00	3.27	.44	.00	.00	.02	.00	.00	.00
22	.24	.00	.00	.00	4.46	.19	.00	.00	.00	.00	.00	.00
23	.77	.60	T	.00	.00	.00	.00	.00	.00	.00	.00	.19
24	.00	.00	.12	.78	1.20	.45	.26	.52	.00	.00	.00	.00
25	.00	.00	.04	.00	.17	.32	.00	.00	.00	.00	.10	.00
26	.00	.00	.00	.00	.00	.27	1.85	.00	T	.00	.04	.00
27	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	T	.00
28	.00	.00	.00	.00	.00	.37	.00	.00	.00	.00	.00	.00
29	.00		.00	.00	.00	.75	.00	.11	.95	.00	.00	.00
30	T		.00	.00	.00	.14	.06	.00	.00	.00	.00	.00
31	T		.00		.00		.00	.00		.00		.00
TOTAL	1.01	1.37	1.57	2.21	11.73	7.83	4.84	1.75	4.63	.54	.14	.57
STAAV	.37	.58	1.27	1.93	4.05	5.06	3.30	2.89	2.74	1.14	.62	.38

NOTES: STATION AVERAGE IS BASED ON METEOROLOGICAL STATION RECORDS FROM 1943 TO 1965.

1965 SELECTED RUNOFF EVENT			HASTINGS, NEBRASKA				WATERSHED W-3				44.1
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)	
Event of June 29-30, 1965											
RG B-36-R			6-29	RG	B-36-R		6-29				
5-31	.07	.0000		2235	.00	.00		2235	.0000	.0000	
6- 1	1.02	.1414		2240	4.92	.41		2250	.0187	.0023	
6- 2	.10	.3175		2248	2.03	.68		2300	.0612	.0090	
6- 5	.32	.0028		2255	.34	.72		2310	.1470	.0263	
6- 6	.12	.0019						2315	.2190	.0416	
			6-29	RG	B-10-R						
6- 9	.78	.1036		2236	.00	.00		2320	.3130	.0638	
6-10	.41	.1616		2241	1.44	.12		2325	.3880	.0930	
6-11	.09	.0081		2251	3.66	.73		2330	.4040	.1260	
6-12	1.80	.0909		2256	.84	.80		2335	.3880	.1591	
6-13	.13	.8006						2345	.3130	.2175	
6-21	.37	.0000		RG	A-12-R	.71					
6-22	.21	T	6-29	RG	B-31-R	.74		2400	.1930	.2807	
6-24	.39	.0005					6-30	0030	.0829	.3497	
6-25	.22	.0504						0100	.0289	.3776	
6-26	.31	.0286						0130	.0114	.3877	
								0230	.0029	.3849	
6-28	.39	.0183						0400	.0007	.3976	
								0800	.0001	.3992	
								1200	.0000	.3994	
For Watershed conditions see next page.											

## Event of June 29-30, 1965 - Continued

Watershed conditions:

Watershed predominately in straight farming.

Corn: 6" to 3' high in good condition.

Sorghum: 1" to 6" high in good condition.

Wheat: 2' to 3' high, ripe, in poor condition. Ground cover 60%.

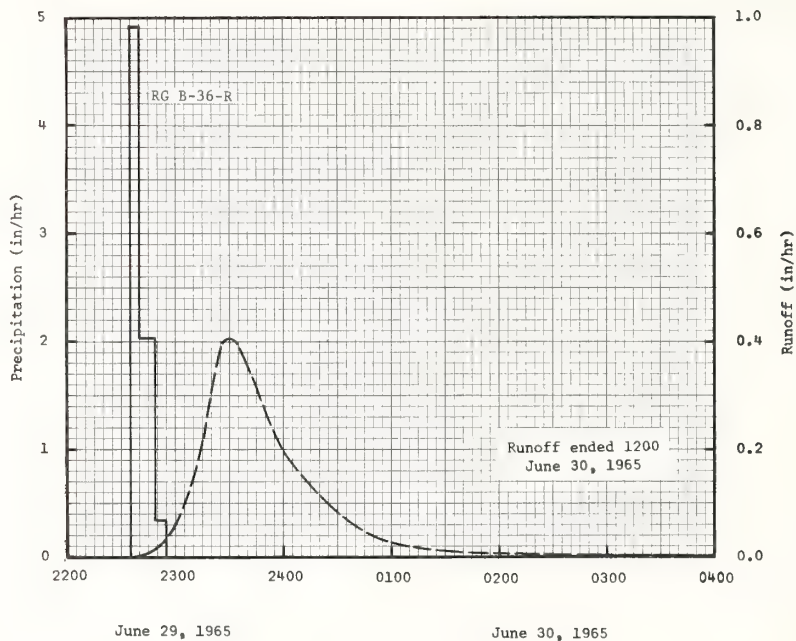
Pasture: 3" to 6" high in good condition.

Meadow: 10" to 20" high, in good condition. Ground cover 85%.

Watershed conditions: (continued)

The land use in percentage of the watershed area was as follows:

	Percent
Corn . . . . .	4
Sorghum . . . . .	18
Wheat . . . . .	19
Fallow . . . . .	28
Sweetclover . . . . .	2
Pasture . . . . .	18
Meadow . . . . .	2
Sudan . . . . .	6
Farm Yard . . . . .	1
Roads . . . . .	2
Total . . . . .	100



HASTINGS, NEBRASKA WATERSHED W-3

MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA							
						WATERSHED W-8							
						AREA — 2,086 ACRES (3.26 SQ. MI.)							
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	2/ 1.05	2/ 1.06	2/ 1.90	2.01	9.86	8.04	4.46	1.58	4.33	.46	2/ .15	2/ .54	35.44
P1/													
Q	.33	.52	1.22	1.96	3.59	5.01	2.89	2.75	2.64	1.11	.63	.39	23.04
STA AVG P	.02	.03	.14	.08	.53	1.11	.39	.24	.28	.08	.01	.00	2.91
(39-65) Q													
MEAN P 3/													
72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL											
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-22	.52	5-22	.43	5-22	.78	5-22	1.41	5-22	2.44	5-22	2.91	5-21	2.96

## MAXIMUMS FOR PERIOD OF RECORD

1939 TO	5-22	.52	5-22	.43	5-22	.78	6-15	1.67	6-15	2.58	6-15	3.43	6-15	4.86	6-13	4.99
1965	1965	1965	1965	1965	1965	1965	1957	1957	1957	1957	1957	1957	1957	1957	1957	1957

Notes: Watershed conditions: Crops including wheat, corn, sorghum, alfalfa, and meadow were in good condition. Fallow fields had no cover. Pastures good to excellent. 1/ Arithmetic average of rain gages A-12-R, B-31-R, C-31-R, and D-31-R. 2/ Based on rain gage D-31-R. 3/ Mean P based on 72-yr. (1893-1964) U.S. Weather Bureau record period at Red Cloud, Nebr.

1965			SELECTED RUNOFF EVENT				HASTINGS, NEBRASKA				WATERSHED W-8				44.3	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of June 1 and 2, 1965																
4 RG 4/																
5- 4	.46	.0000	6-1	RG	C-31-R		6-1	2303	.0000	.0000						
5- 5	.13	.0000		2302	.00	.00		2330	.1320	.0330						
5- 7	.74	.0001		2312	.90	.15		2400	.1780	.1105						
5- 8	.02	.0134		2338	2.49	1.23	6-2									
5- 9	.00	.0007		2400	.63	1.46		0030	.1370	.1892						
5-13	.17	.0000	6-2		.38	1.51		0110	.0822	.2623						
5-14	.51	.0003		0008				0140	.1150	.3116						
5-15	.00	.0050						0210	.1300	.3728						
5-16	.00	.0006						0240	.1220	.4358						
5-17	.14	.0000	6-1	RG	B-31-R											
				2300	.00	.00										
				2400	1.11	1.11		0320	.0850	.5048						
5-21	2.97	.2342	6-2		.50	1.16		0500	.0236	.5953						
5-22	3.52	2.7170		0006				0700	.0041	.6230						
5-23	.00	.0038						0900	.0015	.6286						
5-24	1.06	.5583						1100	.0009	.6310						
5-25	.15	.0057	6-1	RG	D-31-R											
				2303	.00	.00										
				2400	1.40	1.33		2400	.0001	.6375						
5-26	.00	.0262	6-2		.45	1.45	6-3									
5-31	.02	.0000		0016				2400	.0000	.6387						
			6-1 & 2	RG	A-12-R	1.16										

## Watershed conditions:

Corn: Just planted.  
Sorghum: 50% planted.  
Wheat: 18" to 30" high.  
70% headed, in good condition.  
Ground cover 85%.  
Alfalfa: 24" to 36" high,  
in good condition. Ground  
cover 90%.  
Pasture: 3" to 6" high,  
in good condition.  
Meadow: 6" to 20" high,  
in good condition. Ground cover 90%

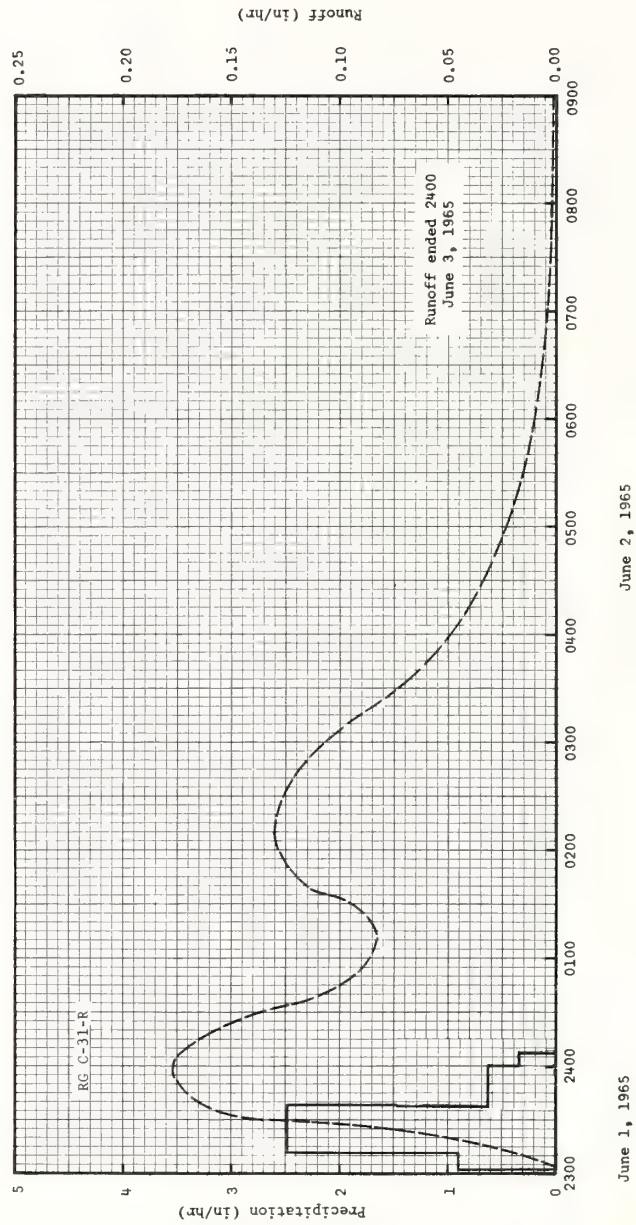
## Watershed conditions: (continued)

The land use in percentage of  
the watershed area was as follows:

	Percent
Corn . . . . .	1
Sorghum . . . . .	21
Wheat . . . . .	17
Fallow . . . . .	23
Alfalfa . . . . .	8
Sweetclover . . . . .	1
Pasture . . . . .	21
Meadow . . . . .	2
Sudan . . . . .	3
Farm Yard . . . . .	1
Roads . . . . .	2
Total . . . . .	100

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 2103. FOR MAP OF W-8, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 44.1-4. 4/ ARITHMETIC AVERAGE OF RAIN GAGES A-12-R, B-31-R, C-31-R, AND D-31-R.





HASTINGS, NEBRASKA WATERSHED W-8

MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA AREA — 3,490 ACRES (5.45 SQ MILES)						WATERSHED W-11				
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P1/ Q	2/ 1.00 .00	2/ .92 .15	2/ 1.96 .27	2.09 .01	9.38 3.33	8.16 2.29	4.32 .36	1.62 .00	4.27 .12	.47 .00	2/ .15 .00	2/ .57 .00	34.91 6.53			
STA AVG P (39-65) Q	.34 .01	.54 .02	1.25 .13	1.96 .07	3.56 .49	5.01 .98	2.89 .36	2.77 .22	2.65 .26	1.12 .07	.65 .01	.41 T	23.15 2.62			
MEAN P 3/ 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	5-22	.42	5-22	.38	5-22	.78	5-22	1.43	5-22	2.26	5-22	2.72	5-21	2.79	5-21	3.47
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	5-22 1965	.42	6-15 1957	.40	6-15 1957	.78	6-15 1957	1.83	6-15 1957	2.72	6-15 1957	3.27	6-15 1957	4.87	6-13 1957	4.93
NOTES: Watershed conditions: Crops including wheat, corn, sorghum, alfalfa and meadow were in good condition. Fallow fields had no cover. Pastures good to excellent. 1/ Arithmetic average of rain gages A-12-R, B-31-R, C-31-R, D-31-R, E-30-R and G-42-R. Months of Jan., Feb., Mar. and Dec. may include snow and snow melt. 2/ Arithmetic average of rain gages D-31-R and G-42-R. 3/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																
1965 SELECTED RUNOFF EVENT						HASTINGS, NEBRASKA				WATERSHED W-11				44.4		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of June 1 and 2, 1965																
6 RG 4/																
5- 4	.44	.0000	6-1	RG	E-30-R		6-1	2300	.0000	.0000						
5- 5	.14	.0000		2252	.00	.00		2320	.0053	.0004						
5- 7	.63	.0000		2302	.60	.10		2330	.0358	.0039						
5- 8	.02	.0026		2328	2.54	1.20		2340	.0751	.0131						
5- 9	.00	.0010		2336	1.05	1.34		2350	.0782	.0259						
				2400	.70	1.62										
5-13	.16	.0000	6-2	0005	.24	1.64		2400	.0766	.0388						
5-14	.51	.0000					6-2	0010	.0718	.0511						
5-17	.27	.0004		RG	B-31-R			0030	.0578	.0731						
5-18	.00	.0016	6-1	2300	.00	.00		0110	.0457	.1072						
5-21	2.68	.0606		2400	1.11	1.11		0130	.0467	.1224						
			6-2	0006	.50	1.16										
5-22	3.23	2.7231						0200	.0651	.1488						
5-23	.00	.0128		RG	D-31-R			0220	.0829	.1737						
5-24	1.13	.4815	6-1	2303	.00	.00		0240	.0977	.2046						
5-25	.14	.0215		2400	1.40	1.33		0310	.0927	.2517						
5-26	.00	.0194	6-2	0016	.45	1.45		0350	.0693	.3046						
5-27	.00	.0015		RG	C-31-R			0430	.0621	.3482						
5-31	.04	.0000	6-1	2302	.00	.00		0450	.0617	.3688						
				2312	.90	.15		0530	.0630	.4103						
				2338	2.49	1.23		0610	.0596	.4514						
				2400	.63	1.46		0700	.0537	.4987						
			6-2	0008	.38	1.51										
				RG	G-42-R			0800	.0450	.5480						
			6-1	2256	.00	.00		0840	.0369	.5757						
				2306	2.04	.34		0930	.0186	.5989						
				2336	2.32	1.50		1030	.0067	.6104						
				2400	.73	1.79		1200	.0037	.6180						
			6-2	0006	.20	1.81		1300	.0022	.6209						
				RG	A-12-R	1.16		1430	.0015	.6237						
			6-1 & 2					1600	.0010	.6256						
								1800	.0007	.6272						
								2100	.0004	.6289						
								2400	.0003	.6300						
							6-3	0800	.0001	.6316						
								1600	.0001	.6324						
							6-4	1600	.000	.6336						
For Watershed conditions see next page.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3519. FOR MAP OF W-11, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 44.1-4. 4/ ARITHMETIC AVERAGE OF 6 RAIN GAGES A-12-R, B-31-R, C-31-R, D-31-R, E-30-R AND G-42-R.																

## Event of June 1 and 2, 1965 - Continued

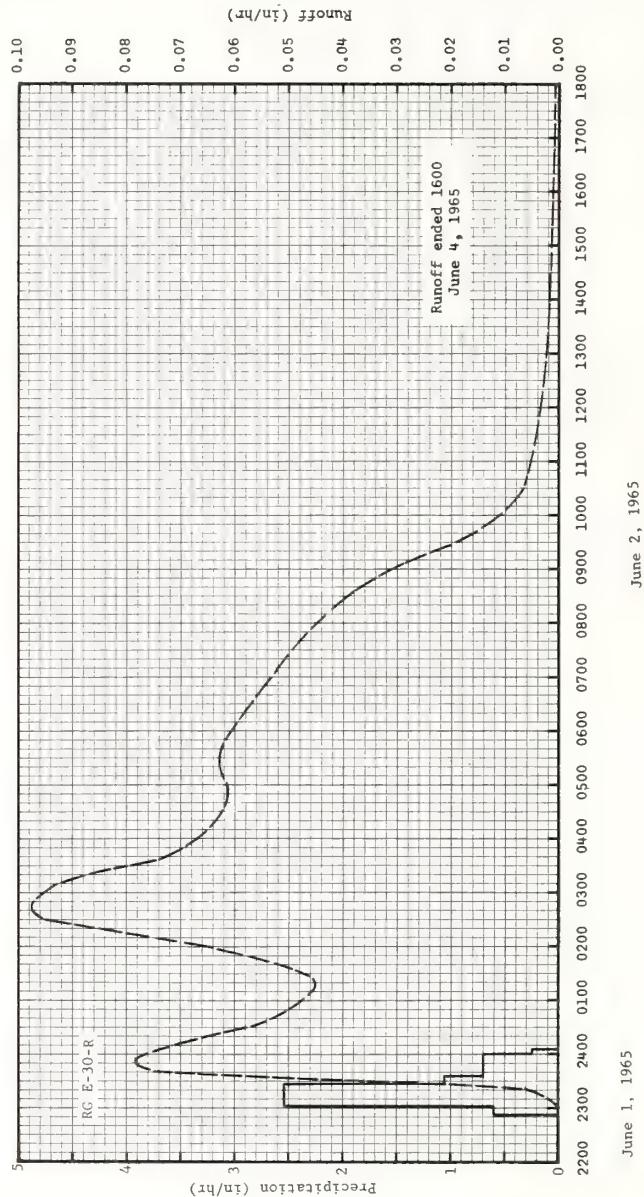
## Watershed conditions:

Corn: Just planted.  
 Sorghum: 50% planted.  
 Wheat: 18" to 30" high.  
 70% headed, in good condition.  
 Ground cover 85%.  
 Alfalfa: 24" to 36" high,  
 in good condition. Ground  
 cover 90%.  
 Pasture: 3" to 6" high  
 in good condition.  
 Meadow: 6" to 20" high,  
 in good condition. Ground  
 cover 90%.

## Watershed conditions: (continued)

The land use in percentage of  
 the watershed area was as follows:

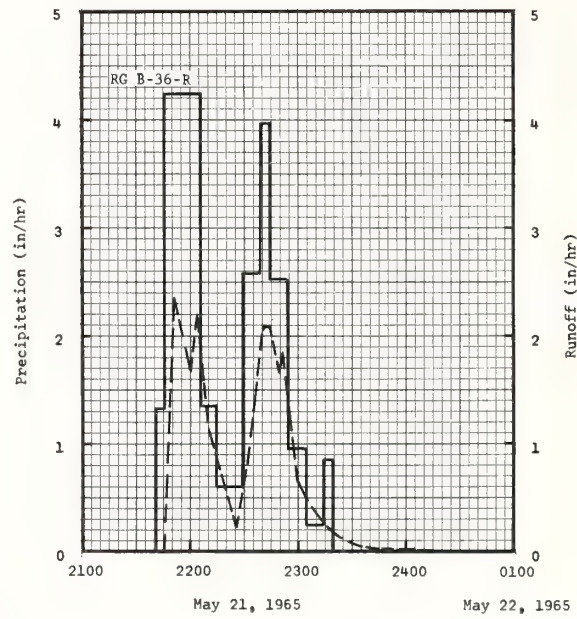
	Percent
Corn, . . . . .	1
Sorghum . . . . .	23
Wheat . . . . .	13
Fallow . . . . .	24
Alfalfa . . . . .	8
Sweetclover . . . . .	1
Pasture . . . . .	23
Meadow . . . . .	2
Sudan . . . . .	2
Farm yard . . . . .	1
Roads . . . . .	2
Total. . . . .	100



HASTINGS, NEBRASKA WATERSHED W-11

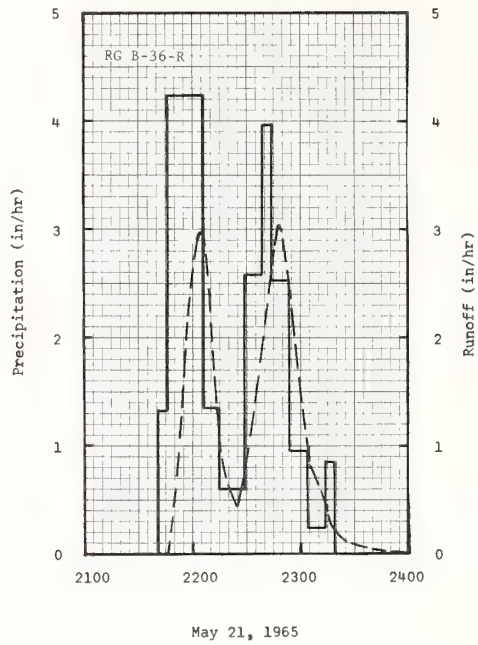
MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA AREA — 3.62 ACRES WATERSHED 1-H											
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965 P <sup>1</sup> / Q	2/ 1.01 .00	2/1.37 .25	2/ 1.57 .07	2.01 .00	11.07 4.27	7.45 .44	4.48 .04	1.63 .00	3.99 .00	.46 .00	2/ .14 .00	2/ .57 .00	35.75 5.07				
STA AV <sup>2</sup> /P (40-65) Q	.32 .01	.51 .01	1.16 .04	1.92 .00	3.71 .18	5.01 .13	2.93 .08	2.79 .05	2.68 .01	1.14 .01	.63 .00	.37 .00	23.17 .52				
MEAN P <sup>4</sup> / 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	6-12	2.35	5-21	1.35	5-21	1.78	5-21	2.00	5-21	3.69	5-21	3.69	5-21	3.69	5-21	4.27	
MAXIMUMS FOR PERIOD OF RECORD																	
1939 TO 1965	6-12 1965	2.35	5-21 1965	1.35	5-21 1965	1.78	5-21 1965	2.00	5-21 1965	3.69	5-21 1965	3.69	5-21 1965	3.69	5-21 1965	4.27	
NOTES: Watershed conditions: Native grass plowed in May 1964. Planted to sorghum in 1965. 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began 1939, part year records for 1939 not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																	
1965 SELECTED RUNOFF EVENT						HASTINGS, NEBRASKA			WATERSHED 1-H				44.5				
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							
RG B-36-R			Event of May 21 and 22, 1965														
			RG		B-36-R												
4-24	.71	.00	5-21	2141	.00	.00	5-21	2146	.00	.00							
5- 4	.57	.00		2146	1.32	.11		2152	2.35	.10							
5- 7	.77	.01		2207	4.23	1.59		2200	1.68	.36							
5- 8	.02	.00		2215	1.35	1.77		2203	2.20	.44							
5-14	.71	T		2229	.60	1.91		2210	1.14	.65							
5-17	.20	.00		2239	2.58	2.34		2226	.21	.82							
				2244	3.96	2.67		2235	1.29	.91							
				2254	2.52	3.09		2240	2.03	1.05							
				2304	.96	3.25		2243	2.09	1.15							
				2314	.24	3.29		2248	1.66	1.31							
Watershed conditions: No tillage during spring. Cover is weeds and sudan stubble.				2319	.84	3.36		2252	1.84	1.42							
								2306	.44	1.68							
								2317	.21	1.73							
								2345	.03	1.78							
							5-22	0015	.00	1.79							
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.650. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA, MISC. PUB. 945, P. 44.5-4.																	





HASTINGS, NEBRASKA WATERSHED 1-H

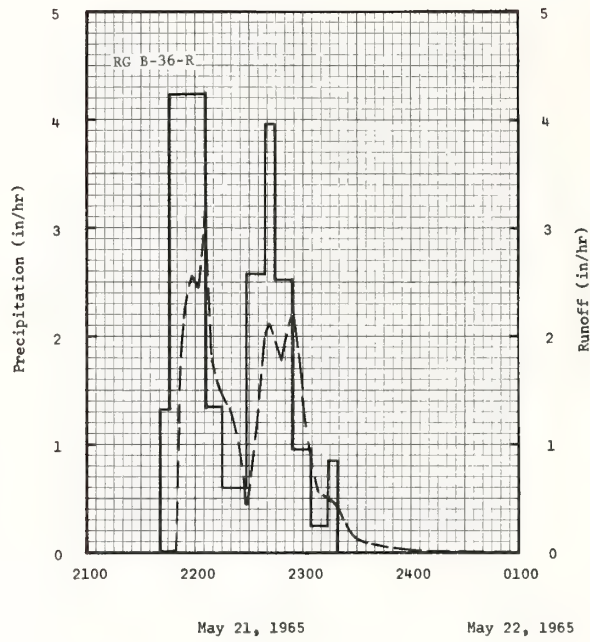
MONTHLY PRECIPITATION AND RUNOFF (inches)							HASTINGS, NEBRASKA								WATERSHED 2-H			
							AREA — 3.40 ACRES											
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965	P 1/Q	2/ 1.01 .00	2/ 1.37 .00	2/ 1.57 .02	2.01 .00	11.07 5.49	7.45 1.64	4.48 .11	1.63 .00	3.99 .00	.46 .00	2/ .14 .00	2/ .57 .00	35.75 7.26				
STA AV 2/P		.33	.56	1.21	1.93	3.76	4.87	3.18	2.84	2.74	1.20	.69	.42	23.73				
(40-65) Q		.03	.03	.24	.21	.99	1.49	.77	.40	.49	.23	.04	.00	4.92				
MEAN P 4/																		
72 YR		.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																		
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL															
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS			
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	6-12	3.47	5-21	2.38	5-21	2.40	5-21	2.58	5-21	5.21	5-21	5.30	5-21	5.30	5-21	5.49		
MAXIMUMS FOR PERIOD OF RECORD																		
1939 TO	6-12	3.47	5-21	2.38	5-21	2.40	5-21	2.58	5-21	5.21	5-21	5.30	5-21	5.30	5-21	5.49		
1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965		
NOTES: Watershed conditions: Native grass pasture, good stand and cover condition, 3.2 animal units per acre under moderate grazing (one-half of top growth consumed). 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began April 1, 1939; part year records for 1939 and period of no records, 1955 through 1957, not included in station averages. 4/ Mean P based on 72-yr. (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																		
1965 SELECTED RUNOFF EVENT							HASTINGS, NEBRASKA								WATERSHED 2-H		44.6	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF											
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)								
				Event of May 21, 1965														
	RG B-36-R			RG	B-36-R													
4-24	.71	.00	5-21	2141	.00	.00	5-21	2147	.00	.00								
5- 4	.57	.00		2146	1.32	.11		2155	1.55	.10								
5- 7	.77	.00		2207	4.23	1.59		2205	2.97	.38								
5- 8	.02	.00		2215	1.35	1.77		2215	1.11	.80								
5-15	.71	.00		2229	.60	1.91		2225	.42	.92								
5-17	.20	.00		2239	2.58	2.34		2235	1.41	1.08								
				2244	3.96	2.67		2248	3.04	1.65								
				2254	2.52	3.09		2255	2.27	1.96								
				2304	.96	3.25		2305	.81	2.21								
				2314	.24	3.29		2315	.42	2.32								
				2319	.84	3.36		2325	.11	2.36								
								2340	.03	2.38								
								2400	.00	2.38								
Watershed conditions: 100% native grass pasture. Grass 3" to 6" high with moderate grazing (sheep). Grass in fair to good condition. Ground cover 75%.																		
			5-21	RG	B-34-R	3.56												
NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.428. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.6-3.																		



HASTINGS, NEBRASKA WATERSHED 2-H

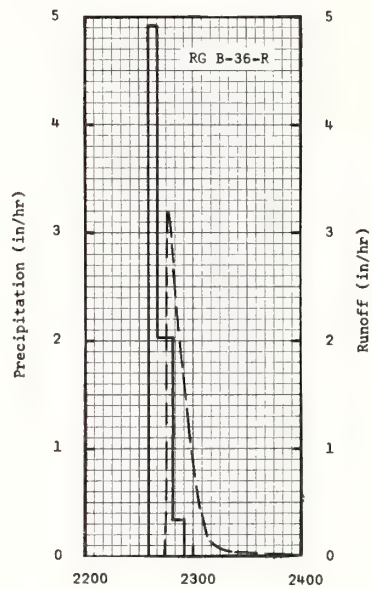
MONTHLY PRECIPITATION AND RUNOFF (inches)							HASTINGS, NEBRASKA							WATERSHED 3-H		
							AREA — 3.77 ACRES									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>1</sup> / <sub>Q</sub>	2/ 1.01 .00	2/ 1.37 .50	2/ 1.57 .64	2.01 .05	11.07 5.96	7.45 1.99	4.48 .40	1.63 .00	3.99 .10	.46 .00	2/ .14 .00	2/ .57 .00	35.75 9.64		
	STA AV <sup>3</sup> /P (40-65) Q	.33 .03	.56 .05	1.21 .27	1.93 .21	3.76 1.01	4.87 1.50	3.18 .78	2.84 .40	2.74 .49	1.20 .23	.69 .04	.42 .00	23.73 5.01		
	MEAN P <sup>4</sup> / <sub>72 YR</sub>	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-21	2.77	5-21	1.65	5-21	2.22	5-21	2.64	5-21	4.48	5-21	4.80	5-21	4.80	5-21	5.38
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	7-3 1959	6.45	7-3 1959	2.34	7-3 1959	2.35	6-1 1951	3.36	5-21 1965	4.48	5-21 1965	4.80	5-21 1965	4.80	5-21 1965	5.38
NOTES: Watershed conditions: Cultivated, planted to sorghum, damaged by hail on June 29. Yield: 16.3 bu. per acre. General crop rotation of wheat-sorghum-fallow, using minimum tillage practices. 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began Mar. 27, 1939; part year records for 1939 and period of no records, 1955 through 1957, not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																
1965 SELECTED RUNOFF EVENT							HASTINGS, NEBRASKA				WATERSHED 3-H				44.7	
ANTECEDENT CONDITIONS				RAINFALL					RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
RG B-36-R			Event of May 21 and 22, 1965													
			5-21	RG	B-36-R	5-21										
4-24	.71	.01		2141	.00		.00	2142	.00	.00						
5- 4	.57	.00		2146	1.32		.11	2148	.01	.00						
5- 7	.77	.04		2207	4.23		1.59	2158	2.52	.27						
5- 8	.02	.00		2215	1.35		1.77	2202	2.45	.44						
5-14	.71	.02		2229	.60		1.91	2205	3.13	.58						
5-17	.20	.00		2239	2.58		2.34	2209	1.78	.74						
				2244	3.96		2.67	2219	.83	.96						
				2254	2.52		3.09	2228	.44	1.06						
				2304	.96		3.25	2234	1.19	1.14						
				2314	.24		3.29	2242	2.11	1.37						
				2319	.84		3.36	2248	1.78	1.57						





HASTINGS, NEBRASKA WATERSHED 3-H

MONTHLY PRECIPITATION AND RUNOFF (inches)							HASTINGS, NEBRASKA							WATERSHED 4-H		
							AREA — 3.64 ACRES									
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1</sup> / <sub>Q</sub>	2/ 1.01 .00	2/ 1.37 .24	2/ 1.57 1.00	2.08 .09	10.98 7.44	7.45 3.75	4.46 .47	1.60 .00	4.00 .22	.44 .00	2/ .14 .00	2/ .57 .00	35.67 13.21			
STA AV <sup>2</sup> / <sub>P</sub> (40-65) Q	.33 .02	.57 .03	1.21 .24	1.97 .20	3.75 1.11	4.83 1.38	3.16 .72	2.82 .38	2.77 .46	1.19 .19	.69 .02	.41 .00	23.70 4.75			
MEAN P <sup>4</sup> / <sub>72 YR</sub>	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	6-12	3.82	5-21	1.84	5-21	2.57	5-21	3.17	5-21	5.94	5-21	6.37	5-21	6.37	5-21	7.21
MAXIMUMS FOR PERIOD OF RECORD																
1940 TO 1965	6-26	7.67	7-3	2.13E	5-21	2.57	6-1	3.19	5-21	5.94	5-21	6.37	5-21	6.37	5-21	7.21
NOTES: Watershed conditions: Cultivated, fallow, planted to wheat in Sept. General crop rotation of sorghum-fallow-wheat, using minimum tillage practices. 1/ Arithmetic average precipitation from rain gages B-34-R and B-36-R. 2/ Based on meteorological station records. 3/ Station records began Apr. 1, 1939; part year records for 1939 and period of no records, 1955 through 1957, not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																
1965 SELECTED RUNOFF EVENT							HASTINGS, NEBRASKA				WATERSHED 4-H				44.8	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of June 29, 1965																
	RG B-36-R				RG	B-36-R										
5-31	.07	.00	6-29		2235	.00	6-29	2244	.00	.00						
6- 1	1.02	.57			2240	4.92		2247	3.19	.08						
6- 2	.10	.05			2248	2.03		2251	2.24	.25						
6- 5	.32	T			2255	.34		2257	1.46	.44						
6- 6	.12	T						2303	.44	.53						
6- 9	.78	.19	6-29		RG	B-34-R	.82	2308	.13	.56						
6-10	.41	.14						2314	.09	.57						
6-11	.09	.02						2400	.00	.60						
6-12	1.80	1.26														
6-13	.13	.28														
6-21	.37	.00														
6-22	.21	.00														
6-24	.39	.00														
6-25	.22	.04														
6-26	.31	.06														
6-28	.39	.10														
Watershed conditions: No tillage during spring. Cover, weeds and sorghum stubble.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.670. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.8-3.																

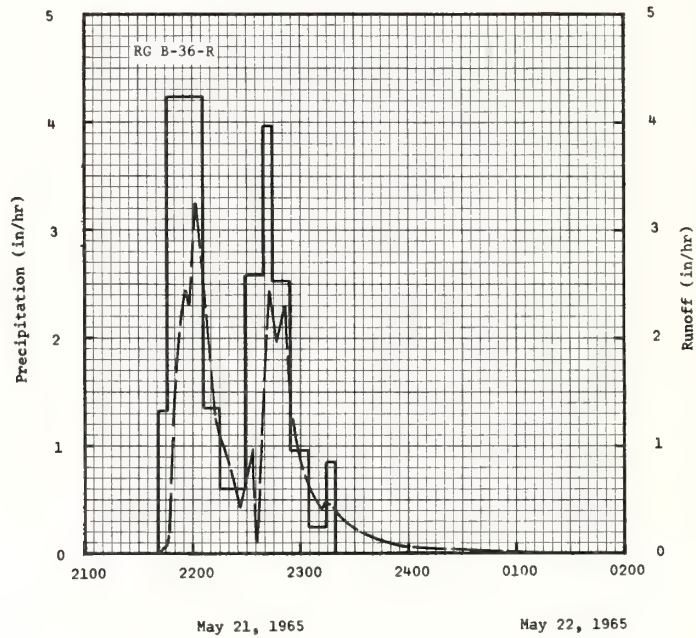


June 29, 1965

HASTINGS, NEBRASKA WATERSHED 4-H

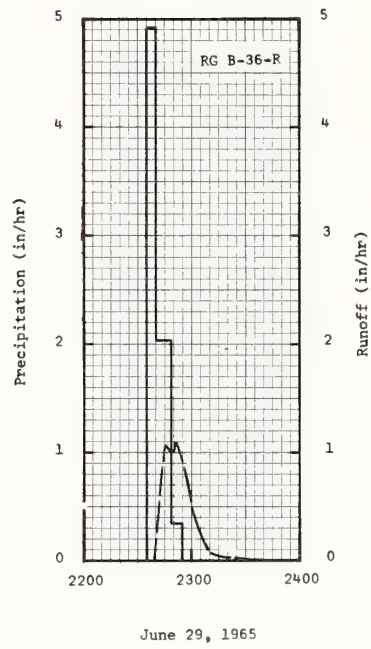
MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA									WATERSHED 5-H	
						AREA — 4.02										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965	2/ 1.01 Q .00	2/ 1.37 .19	2/ 1.57 .18	2.01 .02	11.07 6.42	7.45 1.42	4.48 .49	1.63 .00	3.99 .09	.46 .00	2/ .14 .00	2/ .57 .00	35.75 8.81			
STA AV3/P (40-65) Q	.32 .03	.53 .02	1.14 .16	1.89 .10	3.59 .78	4.76 1.08	3.04 .50	2.69 .30	2.78 .25	1.13 .11	.63 .02	.38 .00	22.88 3.35			
MEAN P 4/ 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-21	3.24	5-21	1.60	5-21	2.26	5-21	2.78	5-21	5.41	5-21	5.77	5-21	5.77	5-21	6.37
MAXIMUMS FOR PERIOD OF RECORD																
1939 TO 1965	6-14 1960	4.24	7-3 1959	1.75	5-21 1965	2.26	5-21 1965	2.78	5-21 1965	5.41	5-21 1965	5.77	5-21 1965	5.77	5-21 1965	6.37
NOTES: Watershed conditions: Cultivated, planted to wheat in Sept. of 1964, damaged by hail on June 29. Yield: 14.7 bu. per acre. General crop rotation of fallow-wheat-sorghum, using tillage practices. 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began Apr. 1, 1939; part year records for 1939 and period of no record, 1957, not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																
1965 SELECTED RUNOFF EVENT						HASTINGS, NEBRASKA				WATERSHED 5-H				44.9		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG B-36-R			Event of May 21, 1965												
4-24	.71	.00	5-21	RG	B-36-R		5-21	2141	.00	.00						
5- 4	.57	.00		2141	.00	.00		2146	.08	.00						
5- 7	.77	.03		2146	1.32	.11		2150	1.53	.06						
5- 8	.02	.00		2207	4.23	1.59		2156	2.45	.26						
5-14	.71	.03		2215	1.35	1.77		2157	2.30	.29						
				2229	.60	1.91										
5-17	.20	.00		2239	2.58	2.34		2202	3.24	.53						
				2244	3.96	2.67		2206	2.30	.71						
				2254	2.52	3.09		2214	1.15	.94						
				2304	.96	3.25		2220	.84	1.03						
				2314	.24	3.29		2227	.42	1.10						
				2319	.84	3.36		2233	.97	1.17						
								2235	.11	1.19						
								2243	2.45	1.39						
								2247	1.98	1.54						
								2252	2.30	1.72						
								2300	1.32	1.96						
								2305	.90	2.05						
								2312	.41	2.11						
								2318	.40	2.16						
								2330	.21	2.22						
								2400	.05	2.28						
							5-22	0028	.02	2.29						
								0128	.00	2.33						
Watershed conditions: In wheat. 12" to 24" high, in good condition with ground cover 85%.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4.054. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.9-4.																





HASTINGS, NEBRASKA WATERSHED 5-H

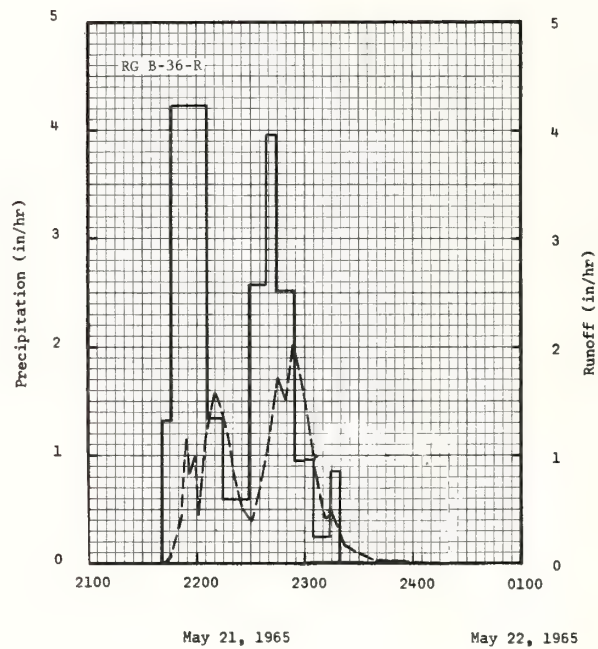
MONTHLY PRECIPITATION AND RUNOFF (inches)							HASTINGS, NEBRASKA							WATERSHED 6-H			
							AREA — 4.01 ACRES										
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
YEAR																	
1965	P1/Q	2/ 1.01 .00	2/ 1.37 .10	2/ 1.57 .05	2.01 .01	11.07 6.37	7.45 1.94	4.48 .31	1.63 .00	3.99 .12	.46 .00	2/ .14 .00	2/ .57 .00	35.75 8.90			
STA AV2/P		.32	.53	1.14	1.89	3.59	4.76	3.04	2.69	2.78	1.13	.63	.38	22.88			
(40-65) Q		.01	.02	.16	.10	.83	1.16	.57	.28	.40	.09	.03	.00	3.65			
MEAN P 4/																	
72 YR		.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	5-22	3.65E	5-21	1.60E	5-21	2.26E	5-21	2.78E	5-21	5.41E	5-21	5.77E	5-21	5.77E	5-21	6.37E	
MAXIMUMS FOR PERIOD OF RECORD																	
1939 TO	5-22	5.70	7-10	1.66	5-21	2.26E	5-21	2.78E	5-21	5.41E	5-21	5.77E	5-21	5.77E	5-21	6.37E	
1965	1954		1951		1965		1965		1965		1965		1965		1965		
NOTES: Watershed conditions: Cultivated, planted to wheat in Sept. 1964; damaged by hail on June 29. Yield: 15.1 bu. per acre. General crop rotation of fallow-wheat-sorghum, using minimum tillage practices. 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began Apr. 1, 1939; part year records for 1939 and period of no record 1957, not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																	
1965 SELECTED RUNOFF EVENT							HASTINGS, NEBRASKA							WATERSHED 6-H		44.10	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							
Event of June 29, 1965																	
5-31	RG B-36-R	.07	6-29	RG	B-36-R	.00	6-29	2239	.00	.00							
6- 1	1.02	.28		2235	4.92	.41		2242	.40	.01							
6- 2	.10	.02		2240	2.03	.68		2246	1.07	.06							
6- 5	.32	T		2248	.34	.72		2248	1.01	.10							
6- 6	.12	T		2255	.00			2250	1.01	.13							
6- 9	.78	.07															
6-10	.41	.03															
6-11	.09	.00															
6-12	1.80	.62															
6-13	.13	.36															
6-21	.37	.00															
6-22	.21	.00															
6-24	.39	.00															
6-25	.22	T															
6-26	.31	.01															
6-28	.39	.00															
Watershed conditions: In wheat, ripe. 24" to 36" high, in poor condition with ground cover 60%.																	
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4.044. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.10-4.																	



HASTINGS, NEBRASKA WATERSHED 6-H

MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA WATERSHED 7-H AREA — 4.26 ACRES											
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965 p1/ Q	2/1.01 .00	2/ 1.37 .24	2/ 1.57 .39	2.01 .00	11.07 5.43	7.45 2.35	4.48 .13	1.63 .00	3.99 .08	.46 .00	2/ .14 .00	2/ .57 .00	35.75 8.62				
STA AV3/P (40-65) Q	.32 .02	.53 .03	1.14 .16	1.89 .10	3.59 .75	4.76 .92	3.04 .46	2.69 .20	2.78 .38	1.13 .09	.63 .03	.38 .00	22.88 3.14				
MEAN P 4/ 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	5-22	3.65	5-22	1.68	5-22	1.77	5-22	3.13	5-21	4.76	5-21	5.06	5-21	5.06	5-21	5.35	
MAXIMUMS FOR PERIOD OF RECORD																	
1939 TO 1965	5-22 1954	4.76	7-3 1959	2.04	7-3 1959	2.06	5-22 1965	3.13	5-21 1965	4.76	5-21 1965	5.06	5-21 1965	5.06	5-21 1965	5.35	
NOTES: Watershed conditions: Cultivated, fallow, planted to wheat in Sept. General crop rotation of sorghum-fallow-wheat using minimum tillage practices. 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began April 1, 1939; part year records for 1939 and period of no record for 1957 not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																	
1965 SELECTED RUNOFF EVENT						HASTINGS, NEBRASKA WATERSHED 7-H 44.11											
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							
	RG B-36-R		Event of May 21 and 22, 1965														
4-24	.71	.00	5-21	RG	B-36-R		5-21										
5- 4	.57	.00		2141	.00	.00		2141	.00	.00							
5- 7	.77	.07		2146	1.32	.11		2147	.01	.00							
5- 8	.02	.00		2207	4.23	1.59		2152	.37	.01							
5-14	.71	.01		2215	1.35	1.77		2154	1.15	.04							
				2229	.60	1.91		2157	.84	.09							
5-17	.20	.00		2239	2.58	2.34		2159	.98	.12							
				2244	3.96	2.67		2202	.46	.15							
				2254	2.52	3.09		2205	1.17	.19							
				2304	.96	3.25		2210	1.58	.31							
				2314	.24	3.29		2215	1.36	.43							
				2319	.84	3.36		2220	.85	.53							
								2226	.50	.59							
						2230	.40	.62									
						2234	.75	.66									
						2240	1.17	.74									
						2245	1.71	.86									
						2249	1.51	.97									
						2254	2.01	1.12									
						2300	1.51	1.29									
						2307	.82	1.43									
						2313	.43	1.49									
						2316	.46	1.52									
						2322	.17	1.55									
						2330	.05	1.56									
						2340	.01	1.57									
						5-22	0015	.00	1.57								
Watershed conditions: No tillage during spring. Cover is weeds and sorghum stubble.																	
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4.296. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.11-4.																	



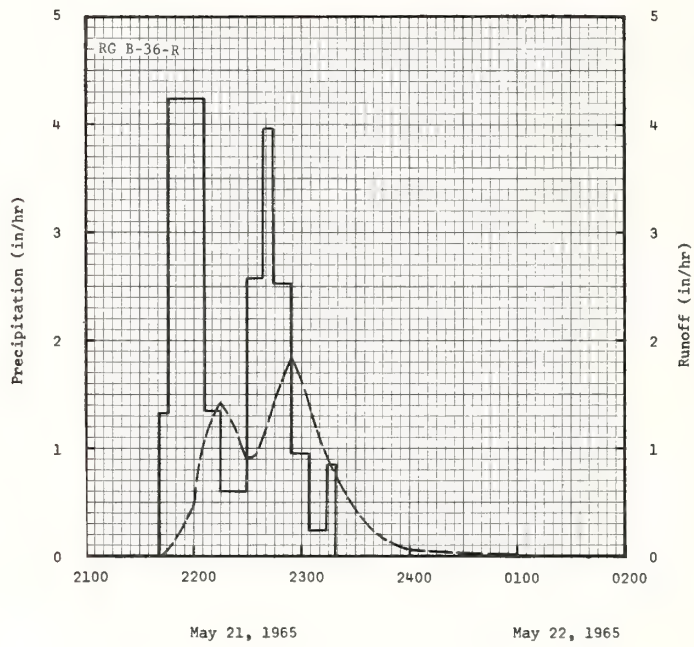


HASTINGS, NEBRASKA WATERSHED 7-H

MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA										WATERSHED 8-R			
		AREA — 3.97 ACRES																	
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL					
1965	P 1/ Q	2/ 1.01 .00	2/ 1.37 .27	2/ 1.57 .08	2.01 T	11.07 4.71	7.45 .98	4.48 .02	1.63 .00	3.99 .02	.46 .00	2/ .14 .00	2/ .57 .00	35.75 6.08					
STA AV 3/P (40-65) Q		.33 .01	.57 .02	1.21 .10	1.97 .04	3.75 .56	4.83 .67	3.16 .34	2.83 .11	2.77 .21	1.19 .05	.69 .00	.41 .00	23.71 2.11					
MEAN P 4/ 72 YR		.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75					
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																			
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL																
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS				
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME			
1965	5-21	1.81	5-21	1.22	5-22	1.85	5-22	2.23	5-21	4.19	5-21	4.35	5-21	4.35	5-21	4.68			
MAXIMUMS FOR PERIOD OF RECORD																			
1939 TO 19 65	6-10 1943	3.66	7-3 1959	1.67	5-22 1965	1.85	6-1 1951	2.35	5-21 1965	4.19	5-21 1965	4.35	5-21 1965	4.35	5-21 1965	4.68			
NOTES: Watershed conditions: Cultivated, planted to sorghum; damaged by hail on June 29. Yield: 23.7 bu. per acre. General crop rotation of wheat-sorghum-fallow, using minimum tillage practices. 1/ Precipitation from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began Mar. 27, 1939; part year records for 1939 and period of no records, 1955 through 1957, not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																			
1965 SELECTED RUNOFF EVENT						HASTINGS, NEBRASKA										WATERSHED 8-R		44.12	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF												
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)									
RG B-36-R			May 21 and 22, 1965																
4-24	.71	T	5-21	RG	B-36-R	.00	5-21	2141	.00	.00									
5- 4	.57	.00		2146	1.32	.11		2155	.33	.02									
5- 7	.77	.02		2207	4.23	1.59		2200	.48	.05									
5- 8	.02	T		2215	1.35	1.77		2205	1.00	.11									
5-14	.71	T		2229	.60	1.91		2215	1.42	.31									
5-17	.20	.00		2239	2.58	2.34		2229	.90	.58									
				2244	3.96	2.67		2235	.97	.68									
				2254	2.52	3.09		2245	1.44	.88									
				2304	.96	3.25		2255	1.81	1.11									
				2314	.24	3.29		2305	1.36	1.41									
				2319	.84	3.36		2325	.56	1.73									
								2340	.22	1.83									
								2400	.06	1.88									
								5-22 0030	.01	1.89									
								0115	.00	1.90									
Watershed conditions: No spring tillage. Cover is weeds and wheat stubble.																			

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4.003. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.12-3.

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4.003. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.12-3.



HASTINGS, NEBRASKA WATERSHED 8-H

MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA AREA — 3.74 ACRES WATERSHED 18-H							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P <sub>1</sub> / Q	2/1.01 .00	2/ 1.37 .47	2/ 1.57 .12	1.91 T	11.06 6.07	6.83 1.65	4.43 .50	1.57 .00	4.34 .10	.43 .00	2/ .14 .00	2/ .57 .00	35.23 8.91
STA AV <sub>3</sub> /P (40-65) Q	.31	.54 .05	1.23 .04	2.07 .05	4.01 .61	5.18 .92	3.11 .35	3.05 .16	2.79 .15	1.21 .06	.70 .02	.42 .00	24.62 2.43
MEAN P <sub>4</sub> / 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-21	2.89	5-21	1.80	5-21	2.32	5-21	2.86	5-21	5.30	5-21	5.58	5-21	5.58	5-21	6.02

## MAXIMUMS FOR PERIOD OF RECORD

19 39 TO 19 65	5-21 1965	2.89	7-3 1959	2.01E	5-21 1965	2.32	5-21 1965	2.86	5-21 1965	5.30	5-21 1965	5.58	5-21 1965	5.58	5-21 1965	6.02
-------------------	--------------	------	-------------	-------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------

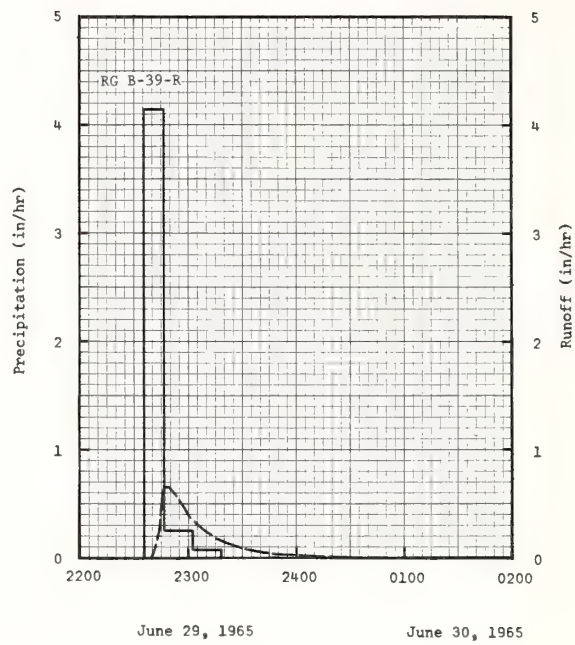
NOTES: Watershed conditions: Native grass pasture, heavily grazed, good cover condition. 1/ Precipitation from rain gage B-39-R. 2/ Based on meteorological station records. 3/ Station records began August 1, 1939; part year records for 1939 and period of no record for 1956 not included in station averages. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.

1965 SELECTED RUNOFF EVENT			HASTINGS, NEBRASKA				WATERSHED 18-H				44.22	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)		
Event of June 29, 1965												
RG B-39-R			RG B-39-R									
5-31	.08	.00	6-29	2236	.00	.00	6-29	2238	.00	.00		
6- 1	.98	.22		2247	4.15	.76		2245	.50	.03		
6- 2	.11	.12		2303	.26	.83		2248	.64	.06		
6- 5	.36	.01		2318	.08	.85		2255	.52	.13		
6- 7	.13	.00						2315	.18	.24		
6- 9	.64	.03						2345	.04	.29		
6-10	.42	.02						2400	.02	.30		
6-11	.08	.00										
6-12	1.20	.37					6-30	0030	.00	.31		
6-13	.33	.57						0130	.00	.31		
6-21	.22	.00										
6-22	.27	.00										
6-24	.36	.00										
6-25	.29	.00										
6-26	.24	.00										
6-28	.29	T										
Watershed conditions: In per- manent pasture. Heavy grazing began in April. Grass 3" to 6" high. Ground cover estimated at 75%.												

Watershed conditions: In permanent pasture. Heavy grazing began in April. Grass 3" to 6" high. Ground cover estimated at 75%.

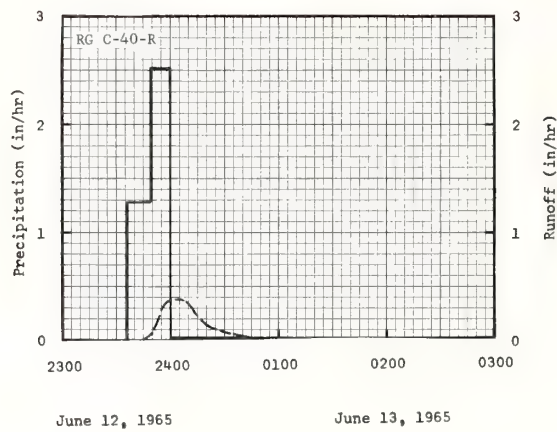
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.771. FOR MAP OF AREA, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 44.22-4.





HASTINGS, NEBRASKA WATERSHED 18-H

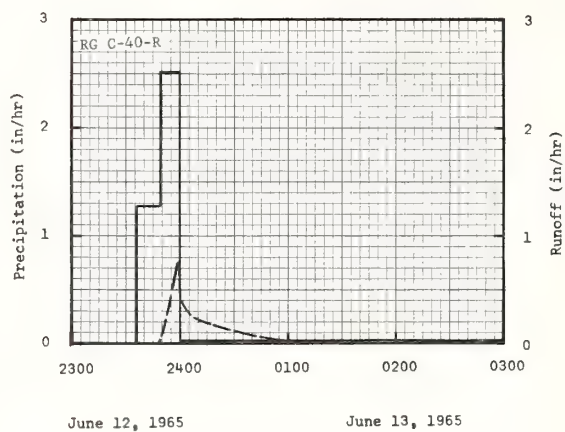
MONTHLY PRECIPITATION AND RUNOFF (inches)							HASTINGS, NEBRASKA							WATERSHED 22-H		
							AREA — 3.83 ACRES									
MONTH	YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P 1/ Q	2/ 1.01 .00	2/ 1.37 .00	2/ 1.57 .00	2.08 .00	11.40 2.51	8.17 .27	5.06 .00	1.76 .00	4.53 .01	.51 .00	2/ .14 .00	2/ .57 .00	38.17 2.79		
STA AV <sup>3</sup> / <sub>P</sub> (62-65) Q		.34 .00	.46 .00	1.11 .00	1.06 .00	3.42 .63	5.74 .08	4.12 .11	3.82 .29	4.43 .06	1.01 .02	.30 .00	.28 .00	26.09 1.19		
MEAN P 4/ 72 YR		.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-22	1.66	5-22	1.17	5-22	1.68	5-22	1.72	5-21	2.60	5-21	2.62	5-21	2.62	5-21	2.70
MAXIMUMS FOR PERIOD OF RECORD																
19 62 TO	8-23	3.18	5-22	1.17	5-22	1.68	5-22	1.72	5-21	2.60	5-21	2.62	5-21	2.62	5-21	2.70
19 65	1962		1965		1965		1965		1965		1965		1965		1965	
NOTES: Watershed conditions: Reseeded to native grasses in 1962. Excellent cover condition. Yield: 6,400 lbs. per acre. 1/ Precipitation from rain gage C-40-R. 2/ Based on meteorological station records. 3/ Precipitation and runoff records under grass cover began June 1, 1962; for comparative data under cultivation (1941-1954) see p. 44-26-1 of 1962 volume. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																
1965 SELECTED RUNOFF EVENT							HASTINGS, NEBRASKA							WATERSHED 22-H		44.26
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of June 12 and 13, 1965																
5-13	RG C-40-R .04	.00	6-12	RG 2236	C-40-R .00	.00	6-12	2345	.00	.00						
5-14	.82	.00		2349	1.29	.28		2355	.29	.02						
5-17	.15	.00		2400	2.51	.74		2400	.38	.05						
5-21	3.04	.88														
5-22	4.46	1.57	6-13	0730	.02	.90	6-13	0006	.38	.09						
5-24	1.31	.07						0015	.21	.14						
5-25	.15	.00						0045	.02	.19						
5-31	.10	.00						0115	.00	.20						
6- 1	1.20	T						0150	.00	.20						
6- 2	.07	.01														
6- 5	.26	.00														
6- 6	.15	.00														
6- 7	.08	.00														
6- 9	.80	.00														
6-10	.62	.00														
6-11	.11	.00														
6-12	5/1.04	6/.06														
Watershed conditions: Grass mea- dow. Grass 8" to 20" high in good condition; ground cover estimated 85%.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.862. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES 1962, USDA MISC. PUB. 1070, P. 44.26-3. 5/ RAINFALL FROM 2114 TO 2202. 6/ RUNOFF ENDED 2255.																



HASTINGS, NEBRASKA WATERSHED 22-H

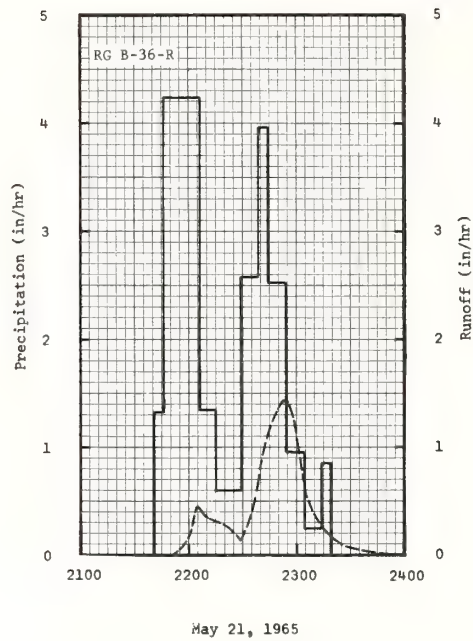
MONTHLY PRECIPITATION AND RUNOFF (inches)							HASTINGS, NEBRASKA										WATERSHED 23-H	
							AREA — 4.20 ACRES											
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965	P <sub>1</sub> /Q	2/ 1.01 .00	2/ 1.37 .00	2/1.57 .00	2.08 .00	11.40 2.51	8.17 .34	5.06 .00	1.76 .00	4.53 T	.51 .00	2/ .14 .00	2/ .57 .00	38.17 2.85				
	STA AV <sup>3</sup> /P (62-65) Q	.34 .00	.46 .00	1.11 .00	1.06 .00	3.42 .63	5.74 .12	4.12 .17	3.82 .31	4.43 .06	1.01 .02	.30 .00	.28 .00	26.09 1.31				
	MEAN P 4/ 72 YR	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																		
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL															
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS			
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME		
1965	5-22	1.66E	5-22	1.17E	5-22	1.68E	5-22	1.72E	5-22	2.60E	5-21	2.62E	5-21	2.62E	5-21	2.70E		
MAXIMUMS FOR PERIOD OF RECORD																		
19 62 TO	8-23	3.24	5-22	1.17E	5-22	1.68E	5-22	1.72E	5-22	2.60E	5-21	2.62E	5-21	2.62E	5-21	2.70E		
19 65	1962		1965		1965		1965		1965		1965		1965		1965			
NOTES: Watershed conditions: Reseeded to native grasses in 1962. Excellent cover conditions. Yield: 6,000 lbs. per acre. 1/ Precipitation from rain gage C-40-R. 2/ Based on meteorological station records. 3/ Precipitation and runoff records under grass cover began June 1, 1962; for comparative data under cultivation (1941-1954) see p. 44.27-1 of 1962 volume. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																		
1965 SELECTED RUNOFF EVENT							HASTINGS, NEBRASKA				WATERSHED 23-H				44.27			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF											
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)								
	RG C-40-R		Event of June 12 and 13, 1965															
5-13	.04	.00	6-12	RG	C-40-R		6-12											
5-14	.82	.00		2336	.00	.00		2348	.00	.00								
5-17	.15	.00		2349	1.29	.28		2352	.15	.01								
5-21	3.04	.88		2400	2.51	.74		2359	.75	.06								
5-22	4.46	1.56	6-13	0730	.02	.90		2400	.40	.16								
5-24	1.31	.07					6-13	0030	.12	.25								
5-25	.15	.00						0100	.01	.28								
5-31	.10	.00						0130	.00	.29								
6- 1	1.20	.00																
6- 2	.07	T																
6- 5	.26	.00																
6- 6	.15	.00																
6- 7	.08	.00																
6- 9	.80	.00																
6-10	.42	.00																
6-11	.11	.00																
6-12	5/ 1.04	6/ .06																
Watershed conditions: Grass meadow. Grass 8" to 20" high in good condition; ground cover estimated at 85%.																		
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 4.235. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES 1962, USDA MISC. PUB. 1070, P. 44.27-3. 5/ RAINFALL FROM 2114 TO 2202. 6/ RUNOFF ENDED 2245.																		





HASTINGS, NEBRASKA WATERSHED 23-H

MONTHLY PRECIPITATION AND RUNOFF (inches)						HASTINGS, NEBRASKA AREA — 2.24 ACRES										WATERSHED 25-H	
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL				
1965	1.01	1.37	1.57	2.01	11.07	7.45	4.48	1.63	3.99	.46	.14	.57	35.75				
Q	.00	.00	.03	.00	2.65	.52	.01	.00	.00	.00	.00	.00	3.21				
STA AV <sup>3</sup> / <sub>P</sub>	.34	.62	.98	1.07	4.19	5.93	3.68	3.24	4.64	.67	.32	.24	25.92				
(63-65) Q	.00	.00	.01	.00	.88	.19	.01	.00	.00	.00	.00	.00	1.09				
MEAN P <sup>4</sup> / <sub>72 YR</sub>	.47	.78	1.19	2.27	3.32	4.28	3.18	2.71	2.67	1.39	.87	.62	23.75				
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	5-21	1.75	5-21	.90	5-21	1.53	5-21	2.64	5-21	2.64	5-21	2.64	5-21	2.64	5-21	2.81	
MAXIMUMS FOR PERIOD OF RECORD																	
1963 TO 1965	5-21 1965	1.75	5-21 1965	.90	5-21 1965	1.53	5-21 1965	2.64	5-21 1965	2.64	5-21 1965	2.64	5-21 1965	2.64	5-21 1965	2.81	
NOTES: Watershed conditions: native grass meadow, excellent cover condition. Yield: 2,600 lbs. per acre. 1/ Precipitation data obtained from rain gage B-36-R. 2/ Based on meteorological station records. 3/ Station records began April 26, 1963. 4/ Mean P based on 72-yr (1893-1964) U. S. Weather Bureau record period at Red Cloud, Nebr.																	
1965 SELECTED RUNOFF EVENT						HASTINGS, NEBRASKA				WATERSHED 25-H							
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							
Event of May 21, 1965																	
	RG B-36-R			RG	B-36-R												
4-24	.71	.00	5-21	2141	.00	.00	5-21	2151	.00	.00							
5- 4	.57	.00		2146	1.32	.11		2202	.27	.03							
5- 7	.77	.00		2207	4.23	1.59		2205	.45	.05							
5- 8	.02	.00		2215	1.35	1.77		2209	.36	.07							
5-14	.71	.00		2229	.60	1.91		2215	.31	.11							
5-17	.20	.00		2239	2.58	2.34		2228	.12	.15							
				2244	3.96	2.67		2238	.66	.22							
				2254	2.52	3.09		2244	1.09	.31							
				2304	.96	3.25		2253	1.43	.49							
				2314	.24	3.29		2257	1.34	.59							
				2319	.84	3.36		2305	.65	.72							
								2315	.25	.80							
								2325	.09	.83							
								2340	.02	.84							
								2400	.00	.84							
Watershed conditions: Grass meadow. Grass 5" to 15" high in good condition; ground cover estimated at 80%.																	
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 2.259. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES 1963, USDA MISC. PUB. 1164, P. 44.29-2.																	



HASTINGS, NEBRASKA WATERSHED 25-H

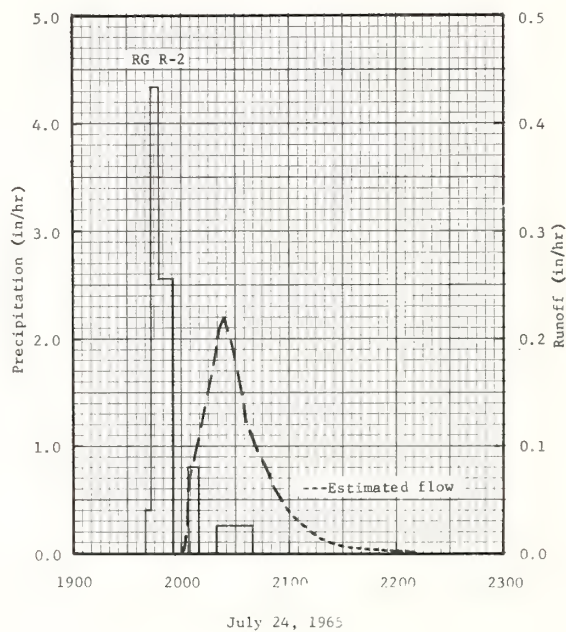
MONTHLY PRECIPITATION AND RUNOFF (inches) <sup>1/</sup>							SAFFORD, ARIZONA WATERSHED 45.001 AREA—519.3 ACRES							45.01		
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
YEAR																
P																
Q																
STA AVG P																
Q																
MEAN P <sup>2/</sup>	.65	.68	.64	.29	.14	.28	1.75	1.62	1.04	.65	.58	.71	9.03			
66 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-24	.2200	7-24	.1115	7-24	.1181E	7-24	.1271E	7-24	.1271E	7-24	.1271E	7-24	.1271E	7-22	.1321E
MAXIMUMS FOR PERIOD OF RECORD <sup>1/</sup>																
19	TO															
NOTES: Quality of Q Data: (Revision) Re-evaluation of runoff shows accuracy should be reduced to poor (+15% of actual) for 1939-65. Watershed conditions: 85 percent of area is bare. Sparse vegetation is predominantly shrubs (creosotebush, snakeweed, and catclaw), with some short grasses (tobosa, three-awn, and curly mesquite). <sup>1/</sup> Not calculated. Data are being re-evaluated. As soon as re-tabulation is completed, revised data will be reported for these two sections. <sup>2/</sup> Mean P based on 66-yr (1899-1964) U.S. Weather Bureau record period at Safford, Ariz.																
1965 SELECTED RUNOFF EVENT				SAFFORD, ARIZONA WATERSHED 45.001												
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of July 24, 1965 <sup>3/</sup>																
	RG R-2		7-24	RG	R-2		7-24									
7-10	.86	.00		1940	.00	.00		2000	.000	.0000						
7-11	.06	.00		1943	.40	.02		2001	.002	.0000						
7-22	.44	.01		1948	4.32	.38		2002	.015	.0002						
				1956	2.55	.72		2003	.035	.0006						
				2003	.00	.72		2004	.062	.0014						
				2009	.80	.80		2005	.077	.0025						
				2019	.00	.80		2006	.092	.0040						
				2039	.24	.88		2009	.105	.0089						
								2011	.115	.0125						
								2013	.133	.0167						
								2015	.152	.0214						
								2017	.169	.0268						
								2019	.188	.0327						
								2020	.203	.0360						
								2022	.210	.0429						
								2024	.220	.0500						
								2026	.208	.0572						
								2029	.184	.0670						
								2032	.164	.0757						
								2034	.144	.0808						
								2036	.127	.0853						
								2039	.109	.0912						
								2043	.094	.0980						
								2046	.083	.1024						
								2049	.069	.1063						
								2052	.060	.1095						
								2055	.051	.1123						
								2058	.042E	.1146E						
								2100	.038E	.1160E						
								2105	.029E	.1187E						
								2110	.023E	.1209E						
								2115	.017E	.1225E						
								2120	.012E	.1237E						
								2125	.009E	.1246E						
Watershed Conditions: Area is 85 percent bare. Sparse vegetation is predominantly shrubs (creosote bush, snakeweed, and catclaw), with some short grasses (tobosa, three-awn, and curly mesquite).																
Continued on next page																

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 523.63. FOR TOPOGRAPHIC MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, FOR 1960-61, USDA MISC. PUB. 994, P. 45.1-4 (REPRINTED). <sup>3/</sup> SELECTED EVENT IS FROM RE-EVALUATED DATA.



1965 SELECTED RUNOFF EVENT			SAFFORD, ARIZONA				WATERSHED 45.001		45.01	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
			<u>Event of July 24, 1965 continued</u>							
							7-24	2130	.006E	.1252E
								2135	.005E	.1257E
								2140	.004E	.1261E
								2150	.002E	.1265E
								2200	.001E	.1268E
								2210	.001E	.1270E
								2225	.000E	.1271E
								2240	.000E	.1271E
								2255	.000E	.1271E
								2305	.000E	.1271E

NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 523.63.



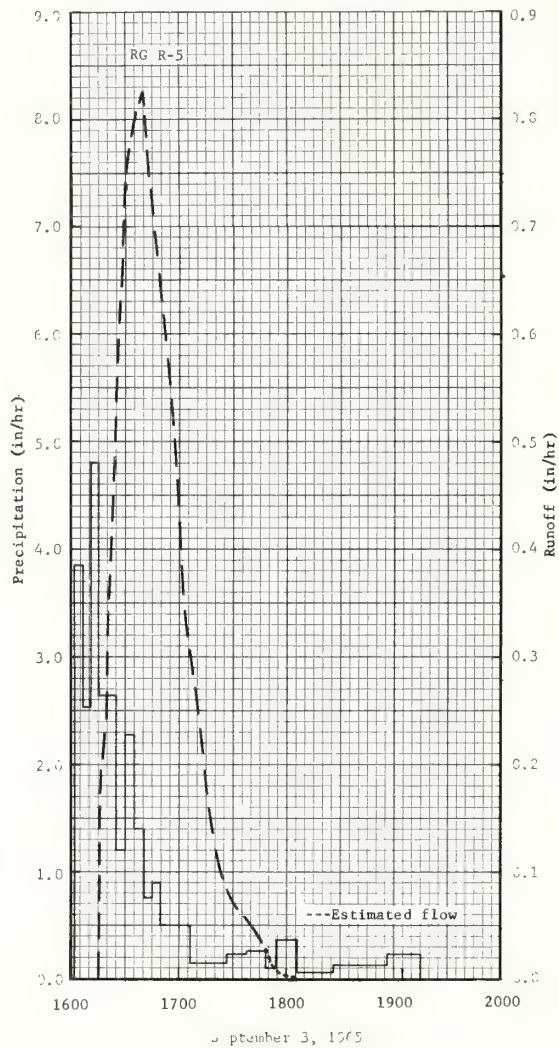
SAFFORD, ARIZONA WATERSHED 45.001

MONTHLY PRECIPITATION AND RUNOFF (inches) 1/						SAFFORD, ARIZONA WATERSHED 45.002 AREA—682.4 ACRES (1.07 SQ. MILES) 45.02										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
P																
Q																
STA AVG P																
Q																
MEAN P <sub>2</sub> /	.65	.68	.64	.29	.14	.28	1.75	1.62	1.04	.65	.58	.71	9.03			
66 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-3	.8260	9-3	.5414	9-3	.5635E	9-3	.5635E	9-3	.5635E	9-3	.5635E	9-3	.5635E	9-3	.5635E
MAXIMUMS FOR PERIOD OF RECORD 1/																
19	TO															
19																
NOTES: Quality of Q data: (Revision) Re-evaluation of runoff shows accuracy should be reduced to poor ( $\pm 15\%$ of actual) for 1939-64. Watershed conditions: Sparsely vegetated rangeland. About 75% of area is bare. Vegetative cover is about equally divided between short grasses (black, hairy and side-oats grama) and shrubs (creosotebush, beargrass and mesquite). 1/ Not calculated. Data are being re-evaluated. As soon as re-tabulation is completed, revised data will be reported for these two sections. 2/ Mean P based on 66-yr(1899-1964)U. S. Weather Bureau record period at Safford, Ariz.																
1965 SELECTED RUNOFF EVENT						SAFFORD, ARIZONA WATERSHED 45.002										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of September 3, 1965 3/																
8-8	RG R-5 .29	.0000	9-3	RG 1602	R-5 .00	.00	9-3	1615	.000	.0000						
8-16	.18	.0000		1607	3.84	.32		1616	.026	.0002						
8-18	.34	.0415		1612	2.52	.53		1617	.177	.0019						
8-29	.19	.0000		1615	4.80	.77		1618	.208	.0051						
				1625	2.64	1.21		1619	.244	.0089						
				1630	1.20	1.31		1620	.291	.0133						
				1635	2.28	1.50		1621	.333	.0185						
				1641	1.40	1.64		1622	.374	.0244						
				1645	.75	1.69		1623	.419	.0310						
				1649	.90	1.75		1624	.483	.0385						
				1707	.50	1.90		1625	.544	.0471						
				1727	.15	1.95		1626	.601	.0566						
				1738	.22	1.99		1627	.622	.0668						
				1748	.24	2.03		1628	.653	.0775						
				1754	.10	2.04		1629	.702	.0888						
				1807	.37	2.12		1630	.736	.1007						
				1827	.06	2.14		1632	.765	.1258						
				1857	.12	2.20		1634	.785	.1516						
				1915	.23	2.27		1636	.800	.1780						
								1638	.816	.2049						
								1639	.826	.2186						
								1640	.816	.2323						
								1642	.785	.2590						
								1645	.726	.2967						
								1650	.635	.3535						
								1655	.553	.4030						
								1700	.425	.4437						
								1705	.321	.4748						
								1710	.259	.4989						
								1715	.174	.5170						
								1725	.092	.5392						
								1735	.062	.5520						
								1745	.039	.5605						
								1746	.031E	.5611E						
								1748	.020E	.5619E						
								1750	.013E	.5625E						
								1752	.008E	.5628E						
								1754	.006E	.5631E						
								1759	.002E	.5634E						
Watershed Conditions: Sparsely vegetated rangeland. About 75% of area is bare. Vegetative cover is about equally divided between short grasses (black, hairy and side-oats grama) and shrubs (creosotebush, beargrass and mesquite).																
Continued on next page																

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 688.08. FOR TOPOGRAPHIC MAP OF WATERSHED SEE SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHED IN THE UNITED STATES, USDA, ARS, JAN. 1960, P. 45.2-5. 3/ SELECTED EVENT OBTAINED FROM RE-EVALUATED DATA.

1965 SELECTED RUNOFF EVENT			SAFFORD, ARIZONA				WATERSHED 45.002		45.02	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
			Event of September 3, 1965-continued				9-3	1804	.001E	.5635E
								1809	.000E	.5635E
								1814	.000E	.5635E
								1819	.000E	.5635E
								1838	.000E	.5635E
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 688.08.										

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 688.08.



SAFFORD, ARIZONA WATERSHED 45.002

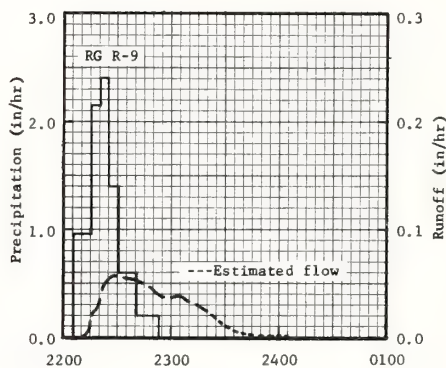
MONTHLY PRECIPITATION AND RUNOFF (inches) <sup>1/</sup>							SAFFORD, ARIZONA WATERSHED 45.004 AREA—764 ACRES (1.19 SQ. MILES)							45.03		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
P																
Q																
STA AVG P																
Q																
MEAN P 66 YR	.65	.68	.64	.29	.14	.28	1.75	1.62	1.04	.65	.58	.71	9.03			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-24	.0580	7-24	.0434	7-24	.0500E	7-24	.0500E	7-24	.0500E	7-24	.0500E	7-24	.0576E	7-23	.0731E
MAXIMUMS FOR PERIOD OF RECORD <sup>1/</sup>																
19	TO															
19	TO															
NOTES: Quality of Q data: (Revision) Re-evaluation of runoff shows accuracy should be reduced to poor ( $\pm 15\%$ of actual) for 1939-65. Watershed conditions: 80 percent of area is bare. Sparse vegetation is composed entirely of shrubs (creosotebush, snakeweed, cactus, and mesquite) except for trace of short grasses. <sup>1/</sup> Not calculated. Data are being re-evaluated. As soon as re-tabulation is completed, revised data will be reported for these two sections. <sup>2/</sup> Mean P based on 66-yr. (1899-1964) U.S. Weather Bureau record period, Safford, Ariz.																
1965 SELECTED RUNOFF EVENT				SAFFORD, ARIZONA WATERSHED 45.004												
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of July 24, 1965 <sup>3/</sup>																
	RG R-9		7-24	RG	R-9		7-24									
6-24	.09	.000		2206	.00	.00		2210E	.000E	.0000						
6-30	.10	.000		2216	.96	.16		2211	.000E	.0000E						
7-9	.47	.000		2221	2.16	.34		2212	.001E	.0000E						
7-10	.20	.000		2225	2.40	.50		2213	.004	.0001						
7-11	.05	.000		2231	1.40	.64		2214	.007	.0001						
7-15	.09	.000		2241	.60	.74		2215	.013	.0003						
7-21	.23	.000		2253	.20	.78		2216	.019	.0006						
7-22	.12	.000						2217	.022	.0009						
7-23	.62	.015E						2218	.025	.0013						
7-24	4/.41	5/.008E						2219	.029	.0018						
								2220	.036	.0023						
								2221	.044	.0030						
								2222	.047	.0038						
								2224	.049	.0054						
								2225	.053	.0062						
								2228	.058	.0090						
								2230	.056	.0109						
								2235	.055	.0155						
								2240	.054	.0201						
								2245	.050	.0244						
								2250	.043	.0283						
								2255	.037	.0316						
								2300	.038	.0347						
								2305	.039	.0380						
								2310	.032	.0409						
								2315	.030	.0435						
								2320	.026	.0458						
								2322	.021E	.0465						
								2324	.017E	.0472E						
								2326	.014E	.0477E						
								2329	.010E	.0483E						
								2332	.008E	.0487E						
								2335	.006E	.0491E						
Continued on next page																
Watershed conditions: Eighty percent of area is bare. Sparse vegetation is composed entirely of shrubs (creosotebush, snakeweed, cactus, and mesquite) except for trace of short grasses.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 770.36. FOR TOPOGRAPHIC MAP OF WATERSHED (REPRINTED), SEE HYDRO-LOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 45.3-4.																
<sup>3/</sup> SELECTED EVENT OBTAINED FROM REVISED DATA. <sup>4/</sup> BETWEEN 1940 AND 2017. <sup>5/</sup> BETWEEN 1955 E AND 2205.																



1965			SELECTED RUNOFF EVENT				SAFFORD, ARIZONA		WATERSHED 45.004	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
			<u>Event of July 24, 1965 continued</u>							
							7-24	2338	.004E	.0493E
								2341	.003E	.0495E
								2344	.002E	.0496E
								2349	.001E	.0497E
								2354	.001E	.0498E
							7-25	2359	.000E	.0499E
								0004	.000E	.0499E
								0009	.000E	.0500E
								0014	.000E	.0500E
								0019	.000E	.0500E
								0024	.000E	.0500E
								0029	.000E	.0500E
								0039	.000E	.0500E
								0049	.000E	.0500E
								0059	.000E	.0500E
								0109	.000E	.0500E

NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 770.36.

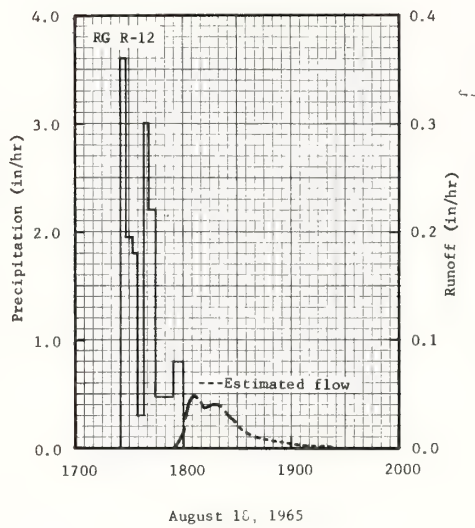
NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 770.36.



July 24, 1965

SAFFORD, ARIZONA WATERSHED 45.004

MONTHLY PRECIPITATION AND RUNOFF (inches) <u>1/</u>						SAFFORD, ARIZONA WATERSHED 45.005 AREA—723 ACRES (1.13 SQ. MILES)								45.04		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
P Q																
STA AVG P Q																
MEAN P Q																
66 YR <u>2/</u>	.65	.68	.64	.29	.14	.28	1.75	1.62	1.04	.65	.58	.71	9.03			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
	DATE	RATE	1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
1965	8-18	.0480	8-18	.0233E	8-18	.0239E	8-18	.0239E	8-18	.0239E	8-18	.0239E	8-18	.0239E	8-18	.0239E
MAXIMUMS FOR PERIOD OF RECORD <u>1/</u>																
19	TO															
NOTES: Quality of Q data: (Revision) Re-evaluation of runoff shows accuracy should be reduced to poor ( $\pm 15\%$ of actual) for 1939-65. Watershed conditions: About 80 percent of area is bare. Vegetation consists mostly of short grasses (black grama, sideoats grama, and tobosa), with some shrubs and forbs. <u>1/</u> Not calculated. Data are being re-evaluated. As soon as re-tabulation is completed, revised data will be reported for these two sections. <u>2/</u> Mean P based on 66-yr (1899-1964) U.S. Weather Bureau record at Safford, Ariz.																
1965	SELECTED RUNOFF EVENT					SAFFORD, ARIZONA WATERSHED 45.005										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of August 18, 1965 <u>3/</u>																
	RG R-12		8-18	RG	R-12		8-18									
7-21	.14	.00		1725	.00	.00		1756	.000	.0000						
7-23	.20	.00		1728	3.60	.18		1757	.001	.0000						
7-24	.23	.00		1732	1.95	.31		1758	.005	.0001						
7-27	.28	.00		1734	1.80	.37		1759	.012	.0002						
7-29	.10	.00		1738	.30	.39		1800	.022	.0005						
8-9	.21	.00		1741	3.00	.54		1801	.030	.0009						
8-16	.13	.00		1744	2.20	.65		1802	.036	.0015						
8-18	<u>4/</u> .17	.00		1754	.48	.73		1803	.041	.0021						
				1800	.80	.81		1805	.046	.0035						
								1806	.048	.0043						
								1808	.046	.0059						
								1810	.042	.0074						
								1812	.037	.0087						
								1815	.039	.0106						
								1819	.040	.0132						
								1821	.039	.0145						
								1823	.036	.0158						
								1825	.030	.0169						
								1828	.024E	.0182E						
								1832	.018E	.0196E						
								1835	.014E	.0204E						
								1840	.010E	.0214E						
								1845	.007E	.0222E						
								1851	.005E	.0228E						
								1857	.003E	.0232E						
								1905	.002E	.0235E						
								1913	.001E	.0237E						
								1923	.000E	.0238E						
								1930	.000E	.0238E						
								1955	.000E	.0239E						
								2007	.000E	.0239E						
								2022	.000E	.0239E						
								2035	.000E	.0239E						
								2102	.000E	.0239E						
Watershed conditions: About 80% of area is bare. Vegetation consists mostly of short grasses (black grama, sideoats grama, and tobosa), with some shrubs and forbs.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 729.02. FOR TOPOGRAPHIC MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 45.4-4. <u>3/</u> SELECTED EVENT IS FROM RE-EVALUATED DATA. <u>4/</u> BETWEEN 1220 AND 1250.																



SAFFORD, ARIZONA WATERSHED 45.005

MONTHLY PRECIPITATION AND RUNOFF (inches) <sup>1/</sup>							ALBUQUERQUE, NEW MEXICO WATERSHED 47.001 AREA—246 ACRES							47.01		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
P																
Q																
STA AVG P																
O																
MEAN P <sub>2/</sub>																
73 YR	.36	.34	.40	.57	.65	.56	1.41	1.27	.88	.79	.43	.45	8.11			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	7-31	.4840	9-12	.1460E	9-12	.1500E	9-12	.1500E	9-12	.1500E	9-12	.1500E	9-12	.2100E	9-12	.2112E
MAXIMUMS FOR PERIOD OF RECORD <sup>1/</sup>																
19	TO															
19																
NOTES: Quality of Q data: (Revision) Re-evaluation of runoff shows accuracy should be reduced to poor (+15% of actual) for 1939-65. Re-evaluation is incomplete. Selected events in this report obtained from re-evaluated data. Watershed conditions: Sparse vegetation consists of short grasses (blue and black grama), shrubs, and a few small juniper and pinion trees. <sup>1/</sup> Not calculated. Data are being re-evaluated. As soon as re-tabulation is completed, revised data will be reported for these two sections. <sup>2/</sup> Mean P based on 73-yr. (1892-1964) U.S. Weather Bureau record period at Albuquerque, N. Mex.																
1965 SELECTED RUNOFF EVENT				ALBUQUERQUE, NEW MEXICO WATERSHED 47.001												
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of July 31, 1965 <sup>3/</sup>																
7-5	RG R-1 .10	.0000	7-31	RG	R-1		7-31									
7-13	.50	T		1830	.00	.00		1838	.000	.0000						
7-25	.32	T		1834	.90	.06		1839	.009	.0001						
7-26	.09	.0000		1839	5.88	.55		1840	.130	.0012						
				1844	.40	.65		1841	.212	.0041						
7-29	.05	.0000						1842	.310	.0084						
								1843	.398	.0143						
								1844	.447	.0214						
								1845	.484	.0291						
								1846	.419	.0367						
								1848	.480	.0516						
								1850	.330	.0651						
								1852	.202	.0740						
								1855	.094	.0814						
								1900	.065	.0880						
								1905	.044	.0926						
								1910	.025	.0955						
								1913	.018E	.0966E						
								1916	.011E	.0973E						
								1921	.006E	.0980E						
								1926	.003E	.0983E						
								1931	.001E	.0985E						
								1936	.001E	.0986E						
								1942	.000E	.0986E						
								1949	.000E	.0987E						
								1957	.000E	.0987E						
								2003	.000E	.0987E						
								2011	.000E	.0987E						
								2024	.000E	.0987E						
Watershed conditions: Sparse vegetation consists of short grasses (blue and black grama), shrubs, and a few small juniper and pinion trees.																

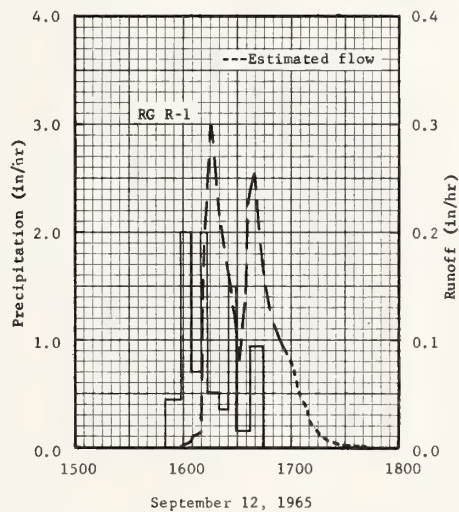
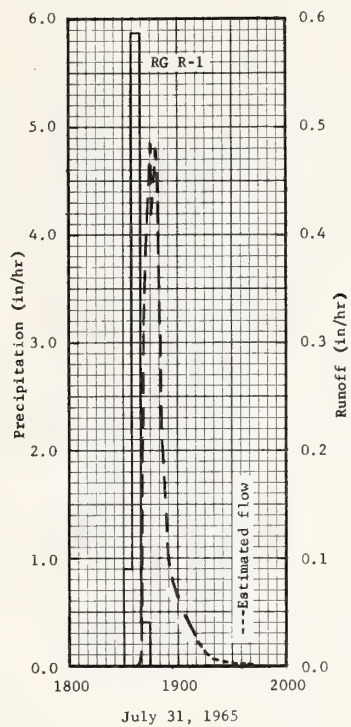
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 248.05. FOR TOPOGRAPHIC MAP OF WATERSHED SEE SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, USDA, ARS, JAN. 1960, P. 47.1-4. REVISED TOPOGRAPHIC MAP NOT AVAILABLE. <sup>3/</sup> SELECTED EVENT OBTAINED FROM RE-EVALUATED DATA.



1965			SELECTED RUNOFF EVENT				ALBUQUERQUE, NEW MEXICO				WATERSHED 47.001	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)		
Event of September 12, 1965												
	RG R-1		9-12	RG	R-1		9-12					
8-13	.05	.000		1550	.00	.00		1558	.000	.0000		
8-14	.43	.030		1558	.45	.06		1600	.001E	.0000E		
8-18	.10	.000		1604	2.00	.26		1602	.002	.0001		
8-21	.06	.000		1610	.70	.33		1604	.006	.0002		
8-29	.32	.005		1613	2.00	.43		1605	.009	.0003		
9-1	.13	.000		1620	.51	.49		1609	.013	.0010		
9-2	.77	.110		1625	.36	.52		1610	.053	.0016		
9-4	.05	.000		1629	1.50	.62		1611	.130	.0031		
9-5	.05	.000		1637	.15	.64		1612	.169	.0056		
9-7	.12	.002		1644	.93	.75		1613	.223	.0089		
9-8	.12	.000						1615	.300	.0176		
9-9	.13	.000						1620	.215	.0390		
9-11	.45	.060						1625	.164	.0548		
								1629	.115	.0641		
								1631	.081	.0674		
								1634	.134	.0728		
								1635	.164	.0752		
								1636	.223	.0785		
								1639	.255	.0904		
								1644	.164	.1079		
								1655	.094	.1315		
								1700	.080	.1387		
								1701	.071E	.1400E		
								1704	.050E	.1430E		
								1707	.038E	.1452E		
								1710	.025E	.1468E		
								1713	.018E	.1478E		
								1716	.011E	.1486E		
								1721	.006E	.1493E		
								1726	.003E	.1496E		
								1731	.001E	.1498E		
								1736	.001E	.1499E		
								1742	.000E	.1499E		
								1749	.000E	.1499E		
								1757	.000E	.1500E		
								1803	.000E	.1500E		
								1811	.000E	.1500E		
								1824	.000E	.1500E		

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 248.05.

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 248.05.



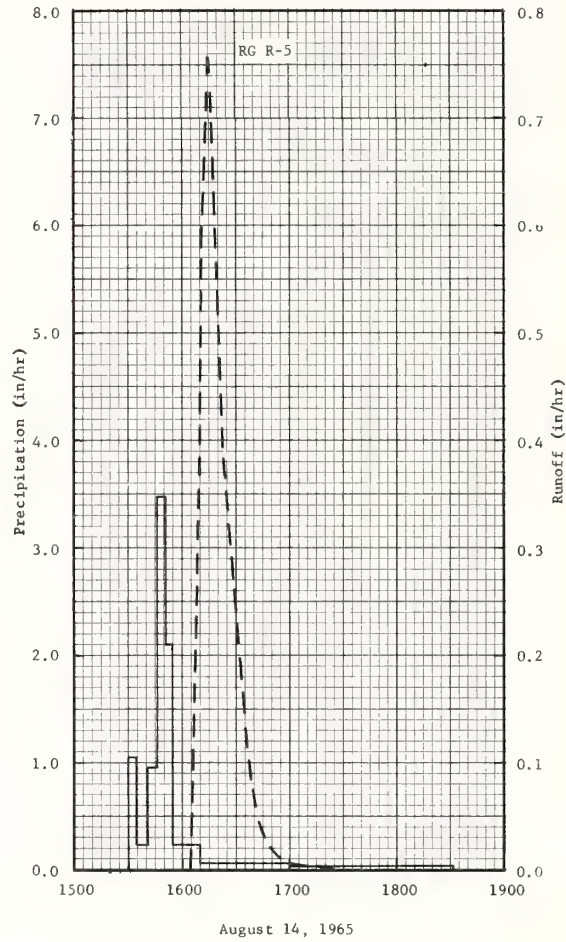
ALBUQUERQUE, NEW MEXICO WATERSHED 47.001



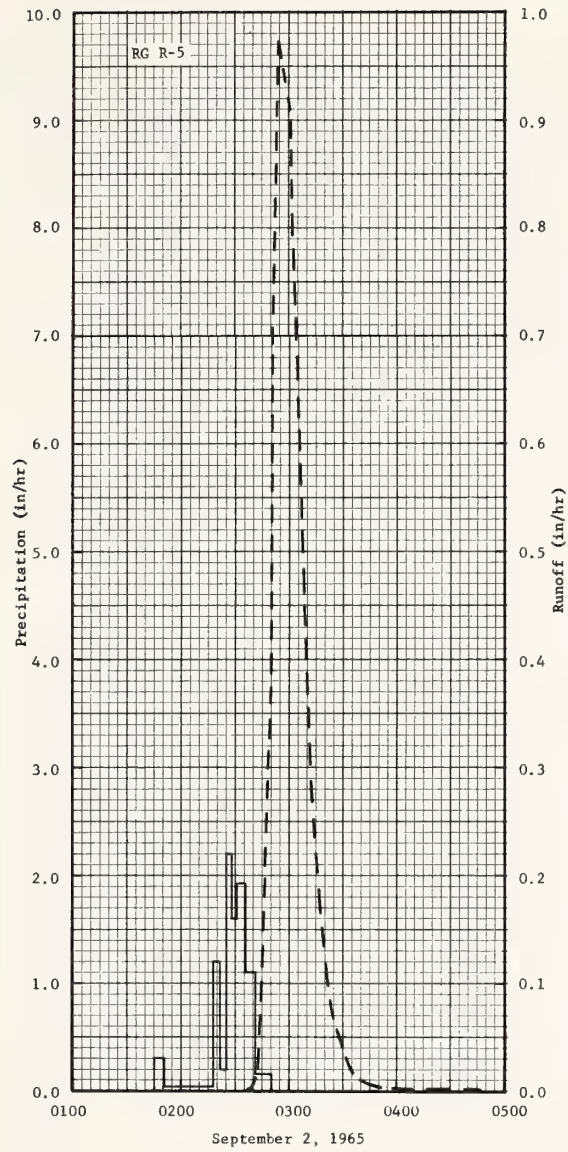
1965 SELECTED RUNOFF EVENT			ALBUQUERQUE, NEW MEXICO				WATERSHED 47.002			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
<u>Event of September 2, 1965</u>										
	RG R-5		9-2	RG	R-5		9-2			
8-13	.03	.00		0145	.00	.00		0235	.000	.0000
8-14	.69	.22		0151	.30	.03		0236	.000	.0000
8-18	.12	.00		0218	.04	.05		0237	.000	.0000
8-21	.13	.00		0222	1.20	.13		0239	.003	.0001
8-29	.20	T		0225	.20	.14		0241	.010	.0003
9-1	.15	.00		0228	2.20	.25		0243	.034	.0010
				0231	1.60	.33		0245	.093	.0031
				0236	1.92	.49		0246	.136	.0050
				0242	1.10	.60		0247	.189	.0078
				0250	.15	.62		0248	.265	.0115
								0249	.346	.0166
								0250	.430	.0231
								0251	.559	.0313
								0252	.725	.0420
								0253	.843	.0551
								0254	.972	.0702
								0300	.920	.1648
								0302	.794	.1934
								0304	.668	.2178
								0308	.462	.2554
								0310	.373	.2694
								0313	.277	.2856
								0315	.220	.2939
								0318	.161	.3034
								0323	.093	.3140
								0328	.050	.3200
								0335	.018	.3239
								0340	.010	.3251
								0350	.003	.3262
								0409	.001	.3268
								0447	.000	.3270

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 40.33.





ALBUQUERQUE, NEW MEXICO WATERSHED 47.002



ALBUQUERQUE, NEW MEXICO WATERSHED 47.002

MONTHLY PRECIPITATION AND RUNOFF (inches) <u>1/</u>						ALBUQUERQUE, NEW MEXICO WATERSHED 47.003 AREA—176 ACRES								47.03
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
P														
Q														
STA AVG P														
MEAN P 73 YR	.36	.34	.40	.57	.65	.56	1.41	1.27	.88	.79	.43	.45	8.11	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-2	.1720	9-2	.1437	9-2	.1865	9-2	.1971	9-2	.1971	9-2	.2341	9-2	.2341	9-2	.2341

MAXIMUMS FOR PERIOD OF RECORD <u>1/</u>														
19	TO													
19														

NOTES: Quality of Q data: (Revision) Re-evaluation of runoff shows accuracy should be reduced to poor ( $\pm 15\%$  of actual) for 1939-65. Watershed conditions: Sparsely vegetated rangeland; about 75 percent of area is bare. Vegetation consists of short grasses (blue and black grama and galleta) and shrubs (sagebrush, saltbush, and snakeweed). Vegetation is comparatively heavy in a narrow strip along the principal waterway. 1/ Not calculated. Data are being re-evaluated. As soon as re-tabulation is completed, revised data will be reported for these two sections. 2/ Mean P based on 73-yr. (1892-1964) U.S. Weather Bureau record period at Albuquerque, New Mex.

1965 SELECTED RUNOFF EVENT				ALBUQUERQUE, NEW MEXICO WATERSHED 47.003							
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)	
			<u>Event of August 1-2, 1965 <sup>3/</sup></u>								
	RG R-5		8-1	RG	R-5		8-1				
7-13	.66	T		2136	.00	.00		2225	.000	.0000	
7-25	.43	T		2140	.30	.02		2226	.000	.0000	
7-26	.10	.00		2150	.03	.03		2227	.001	.0000	
7-29	.07	.00		2204	1.00	.13		2228	.002	.0000	
7-31	.70	.05		2219	.28	.20		2229	.003	.0001	
8-1	<u>4/</u> .07	.00		2233	.26	.26		2230	.003	.0001	
				2247	.10	.33		2231	.004	.0002	
				2302	.20	.38		2232	.004	.0002	
				2331	.18	.47		2236	.003	.0005	
								2240	.005	.0008	
								2243	.008	.0011	
								2250	.013	.0023	
								2255	.013	.0033	
								2300	.017	.0046	
								2306	.023	.0066	
								2310	.024	.0082	
								2321	.021	.0124	
								2325	.021	.0138	
								2335	.023	.0174	
								2340	.023	.0193	
								2345	.025	.0213	
								2349	.028	.0231	
								2355	.030	.0260	
								0010	.026	.0331	
								0025	.022	.0391	
								0040	.018	.0441	
								0055	.013	.0479	
								0110	.009	.0508	
								0125	.006	.0527	
								0140	.004	.0540	
								0210	.002	.0554	
								0240	.001	.0560	
								0255	.000	.0561	
								0315	.000	.0561	

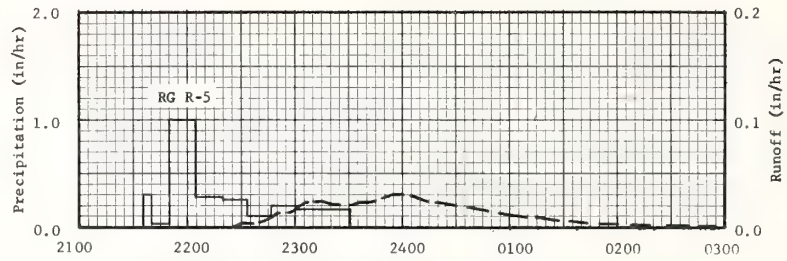
Watershed conditions: Sparsely vegetated rangeland; about 75% of area is bare. Vegetation consists of short grasses (blue and black grama and galleta) and shrubs (sagebrush, saltbush, and snakeweed). Vegetation is comparatively heavy in a narrow strip along the principal waterway.

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 177.47. FOR TOPOGRAPHIC MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59. USDA MISC. PUB. 945, P. 47.3-4. 3/ SELECTED EVENT OBTAINED FROM RE-EVALUATED DATA. 4/ RAINFALL FROM 1918 TO 1928.

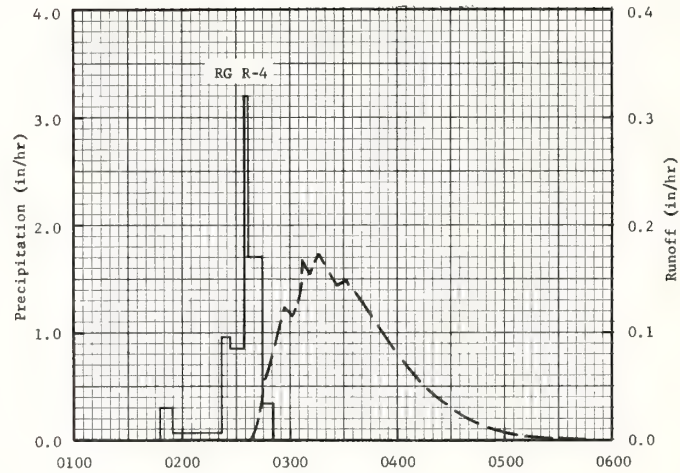
1965 SELECTED RUNOFF EVENT			ALBUQUERQUE, NEW MEXICO				WATERSHED 47.003			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
<u>Event of September 2, 1965</u>										
	RG R-4		9-2	RG	R-4		9-2			
8-13	.03	.00		0148	.00	.00		0236	.000	.0000
8-14	.58	.00		0154	.30	.03		0237	.000	.0000
8-18	.15	.00		0222	.06	.06		0238	.000	.0000
8-21	.13	.00		0227	.96	.14		0239	.003	.0000
8-29	.31	.00		0234	.86	.24		0240	.007	.0001
9-1	.11	.00		0237	3.20	.40		0241	.010	.0003
				0244	1.71	.60		0242	.016	.0005
				0251	.34	.64		0243	.024	.0008
								0244	.035	.0013
								0245	.046	.0020
								0246	.057	.0028
								0248	.069	.0050
								0250	.071	.0073
								0253	.096	.0115
								0257	.124	.0188
								0302	.116	.0288
								0304	.128	.0328
								0307	.167	.0402
								0312	.154	.0536
								0317	.172	.0672
								0327	.144	.0936
								0332	.149	.1059
								0341	.128	.1266
								0345	.119	.1349
								0355	.092	.1525
								0405	.069	.1660
								0415	.050	.1760
								0425	.037	.1832
								0435	.026	.1884
								0445	.017	.1920
								0455	.010	.1942
								0505	.006	.1956
								0515	.003	.1964
								0525	.001	.1968
								0535	.001	.1970
								0545	.000	.1970
								0554	.000	.1971

NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 177.47.





August 1-2, 1965



September 2, 1965

ALBUQUERQUE, NEW MEXICO WATERSHED 47.003

MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI						WATERSHED W-4A <sup>1/</sup>		62.01
						AREA—1,580 ACRES (2.47 SQ. MILES) <sup>2/</sup>								
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sup>3/</sup>	4.06	6.81	10.15	.90	2.09	1.91	1.84	2.46	3.91	.78	1.11	2.01	38.03	
Q	.56	1.94	3.75	.14	.00	.03	.02	.01	.03	.00	.00	.01	6.49	
STA AV <sup>4/</sup> P	3.84	4.92	5.23	4.60	3.33	3.31	4.39	3.22	4.91	2.11	4.59	4.62	49.07	
(57-65) Q	.69	1.03	.99	.66	.20	.12	.18	.14	.35	.07	.45	.66	5.54	
MEAN P <sup>5/</sup>														
46 YR	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.34	3-29	.27	3-29	.41	3-29	.73	3-29	.82	3-28	1.25	3-24	1.71	3-24	3.16
MAXIMUMS FOR PERIOD OF RECORD																
1957 to 1965	2-23 1962	.84	2-23 1962	.72	2-23 1962	1.13	3-4 1964	1.56	3-4 1964	1.62	1-31 1957	2.38	1-30 1957	3.34	1-27 1957	3.90

NOTES: Watershed conditions: About 16% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 35% in pasture and idle land, good cover April to October with fair cover remainder of year; 47% in woods, good cover; 2% bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1965. They differ from those previously reported. Changes occurred over a period of 3 years prior to 1965. <sup>1/</sup> Reported as Watershed W-4 prior to 1965. About 33% of drainage area above small desilting and retention dams. <sup>2/</sup> Gaging station relocated upstream Jan. 1, 1965. Drainage area reduced from 2000 to 1580 acres, "and watershed designated W-4A." <sup>3/</sup> Monthly precipitation Thiessen weighted from rain gages 7, 8 and 18. <sup>4/</sup> Precipitation and runoff records began Jan. 1957. <sup>5/</sup> Mean P based on 46-yr (1920-65) U.S. Weather Bureau record period at Holly Springs 2N, Miss.

1965	DAILY AIR TEMPERATURE (degrees F)														OXFORD, MISSISSIPPI										WATERSHED W-4A										62.01
DAY	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC												
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN											
1	59	48	37	10	67	48	66	39	79	47	87	63	91	66	89	60	90	67	77	58	78	39	83	15											
2	72	57	36	12	55	51	72	46	80	55	88	67	91	67	85	57	75	51	65	47	70	32	50	16											
3	63	36	29	12	53	31	75	50	79	51	87	70	96	75	90	59	83	57	71	47	76	40	54	35											
4	46	25	42	14	34	26	64	50	80	59	90	65	94	67	90	61	77	69	77	41	75	48	55	28											
5	55	25	47	20	33	26	78	62	83	60	90	67	91	69	94	68	80	71	68	43	70	55	58	27											
6	63	40	56	32	36	29	80	63	83	63	89	90	91	69	93	67	87	66	70	50	73	57	68	36											
7	65	49	56	46	42	33	75	64	84	62	85	62	91	70	90	71	87	64	62	55	75	54	54	19											
8	69	60	54	49	40	29	84	65	85	61	83	64	92	71	85	68	89	63	75	53	65	57	50	18											
9	73	42	63	50	50	32	80	65	87	67	85	65	92	71	78	65	91	63	76	45	74	48	59	22											
10	43	30	75	48	52	28	81	59	83	69	90	67	90	74	88	59	89	64	79	45	60	52	65	28											
11	34	23	68	47	50	30	83	59	82	64	88	69	90	67	86	61	85	71	79	46	66	34	71	49											
12	51	25	71	40	54	34	83	62	80	63	80	68	88	63	88	64	74	67	80	47	70	35	68	51											
13	56	27	40	25	50	34	79	48	79	51	87	66	86	64	90	66	76	66	70	42	65	54	66	31											
14	55	28	37	23	55	32	71	51	84	58	88	68	89	69	88	68	87	63	77	45	65	51	57	31											
15	45	28	44	22	63	40	70	55	86	64	81	68	90	68	92	67	89	69	83	58	64	51	49	43											
16	43	21	52	24	68	40	79	45	85	66	76	64	86	62	93	68	89	70	82	57	72	55	50	42											
17	25	12	48	37	74	48	65	41	80	67	78	60	90	65	95	70	89	71	84	49	74	38	45	40											
18	34	12	58	28	71	33	80	51	80	68	82	59	93	68	95	70	88	68	86	52	48	33	49	34											
19	41	20	62	28	40	23	80	55	83	65	81	52	95	64	95	71	89	69	81	58	58	35	43	31											
20	51	24	58	32	33	15	70	41	82	64	82	55	88	69	95	71	88	68	68	62	65	34	48	23											
21	60	30	63	32	37	15	77	46	79	63	85	59	90	64	91	63	88	68	76	49	72	37	54	25											
22	67	42	56	20	51	22	83	54	84	62	88	67	94	69	95	66	86	68	68	49	70	53	59	25											
23	68	54	44	20	64	33	87	59	85	65	89	69	93	70	90	71	81	65	57	42	65	34	67	37											
24	67	40	60	25	70	36	88	57	85	68	85	65	95	75	83	69	76	54	71	39	70	34	63	47											
25	41	33	50	14	43	36	86	62	88	68	86	59	97	69	87	68	65	37	55	25	62	51	64	37											
26	67	34	30	14	41	33	83	54	89	69	88	65	93	70	93	71	69	39	65	25	72	56	41	22											
27	57	24	53	27	35	29	65	50	86	67	91	70	91	70	94	74	70	49	72	30	82	38	49	22											
28	46	23	64	45	61	29	56	38	82	59	88	70	93	67	92	67	80	51	69	30	59	36	51	27											
29	58	22	-----	-----	72	51	62	35	78	54	88	64	87	67	87	55	80	56	73	32	60	28	54	29											
30	42	22	-----	-----	65	42	67	38	75	50	93	70	89	58	83	55	75	65	66	30	47	18	64	37											
31	27	9	-----	-----	51	36	-----	-----	84	58	-----	-----	85	52	90	60	-----	-----	71	38	-----	-----	67	53											
AV.	53	31	52	28	52	33	76	52	83	62	86	66	91	67	90	65	82	62	73	45	67	43	56	32											
MEAN	42.1		40.2		42.5		63.9		72.0		75.3		79.2		77.6		72.4		58.7		55.2		43.7												
STA AV	49	28	53	32	59	37	72	50	81	58	86	65	90	68	90	67	84	62	74	49	63	39	51	30											

NOTES: TEMPERATURE DATA FROM U. S. WEATHER BUREAU STATION AT HOLLY SPRINGS 2N, MISS. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.

1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI							WATERSHED W-4A	62.01
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.00	.15	1.27	.00	.00	.00	.00	.00	.37	.00	.00	.00		
2	.96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
3	.00	.00	.00	.61	.00	.00	.02	.00	.00	.00	.00	.00		
4	.00	.00	.00	.00	.00	.00	1.39	.00	.11	.00	.00	.00		
5	.00	.00	.15	.00	.00	.00	.03	.00	.00	.00	.00	.00		
6	.00	.15	.07	.00	.00	.85	.00	.03	.00	.74	.00	.00		
7	.00	.00	.00	.00	.00	.00	.00	.83	.00	.00	.02	.00		
8	.00	.99	.00	.00	.00	.00	.01	.02	.00	.00	.02	.00		
9	2.13	1.53	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00		
10	.05	.82	.00	.00	.44	.00	.14	.00	.98	.00	.00	.00		
11	.00	1.76	.12	.00	.21	.05	.00	.00	1.29	.00	.00	.64		
12	.00	.00	.38	.00	.00	.02	.00	.00	.00	.00	.22	.93		
13	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00		
14	.00	.00	.00	.00	.00	.90	.18	.00	.00	.00	.12	.11		
15	.15	.00	.00	.04	.12	.00	.00	.00	.00	.00	.00	.01		
16	.00	.00	.27	.00	.57	.00	.00	.00	.00	.00	.00	.00		
17	.00	.00	.92	.00	.02	.00	.00	.00	.00	.00	.00	.00		
18	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00		
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
20	.00	.00	.00	.00	.45	.00	.00	.00	.07	.01	.00	.00		
21	.00	.06	.00	.00	.00	.00	.00	.00	.36	.00	.45	.00		
22	.47	.00	.00	.00	.00	.00	.03	.00	.34	.03	.00	.00		
23	.30	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00		
24	.00	1.23N	2.02	.00	.00	.00	.00	.05	.00	.00	.00	.32		
25	.00	.00	2.33	.00	.00	.00	.00	.00	.00	.00	.00	.00		
26	.00	.00	.03	.25	.00	.00	.00	.00	.00	.00	.28	.00		
27	.00	.00	.00	.00	.19	.00	.00	.75	.00	.00	.00	.00		
28	.00	.12	1.25	.00	.09	.03	.00	.73	.00	.00	.00	.00		
29	.00	-----	1.34	.00	.00	.00	.00	.00	.05	.00	.00	.00		
30	.00	-----	.00	.00	.00	.00	.00	.00	.34	.00	.00	.00		
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00		
TOTAL	4.06	6.81	10.15	.90	2.09	1.91	1.84	2.46	3.91	.78	1.11	2.01		
STA AV	3.84	4.92	5.23	4.60	3.33	3.31	4.39	3.22	4.91	2.11	4.59	4.62		

NOTES: DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 7, 8, AND 18.

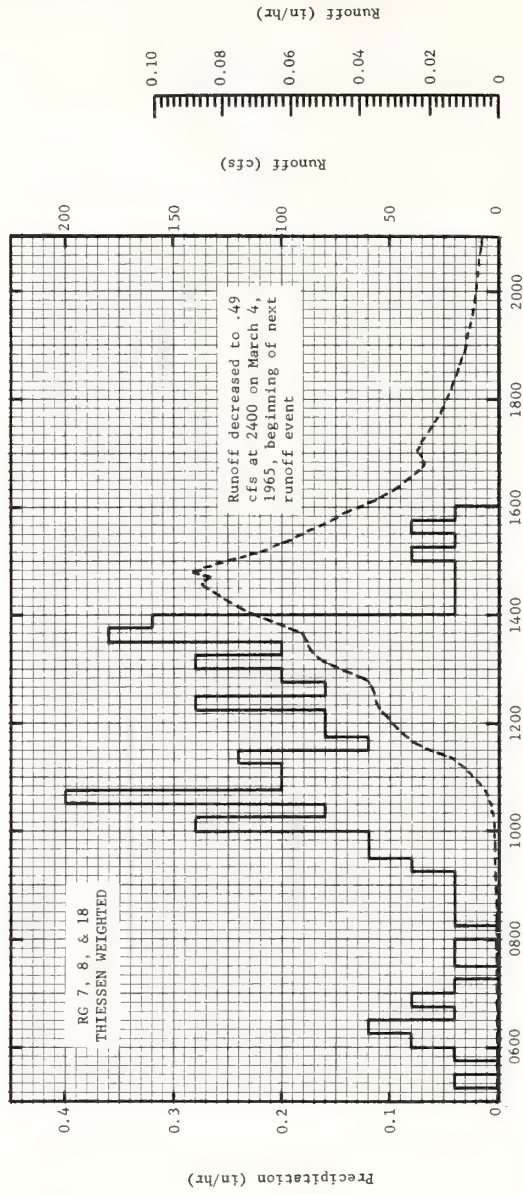
1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI							WATERSHED W-4A	62.01
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.00	.00	22.51	1.21	.00	.00	.00	.00	.00	.00	.00	.00		
2	3.93	.00	1.54	1.82	.00	.00	.00	.00	.00	.00	.00	.00		
3	.03	.00	.58	3.51	.00	.00	.00	.00	.00	.00	.00	.00		
4	.00	.00	.52	.72	.00	.00	1.37	.00	.00	.00	.00	.00		
5	.00	.00	.68	.29	.00	.00	.00	.00	.00	.00	.00	.00		
6	.00	.00	.43	.23	.00	.10	.00	.00	.00	.00	.00	.00		
7	.00	.00	.27	.15	.00	.00	.00	.14	.00	.00	.00	.00		
8	.00	.05	.19	.08	.00	.00	.00	.00	.00	.00	.00	.00		
9	27.53	22.09	.13	.03	.00	.00	.00	.00	.00	.00	.00	.00		
10	3.48	11.08	.05	.48	.00	.00	.00	.00	.13	.00	.00	.00		
11	.63	74.40	.04	.60	.00	.00	.00	.00	1.83	.00	.00	.00		
12	.38	4.25	.91	.03	.00	.00	.00	.00	.00	.00	.00	.85		
13	.32	1.22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
14	.25	.73	.00	.00	.00	1.73	.00	.00	.00	.00	.00	.00		
15	.16	.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
16	.03	.35	.38	.00	.00	.00	.00	.00	.00	.00	.00	.00		
17	.00	.25	11.68	.00	.00	.00	.00	.00	.00	.00	.00	.00		
18	.11	.19	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00		
19	.03	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
20	.00	.15	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00		
21	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
22	.50	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
23	.15	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
24	.05	9.32	28.39	.00	.00	.00	.00	.00	.00	.00	.00	.00		
25	.00	1.00	78.94	.00	.00	.00	.00	.00	.00	.00	.00	.00		
26	.00	1.80	9.55	.00	.00	.00	.00	.00	.00	.00	.00	.00		
27	.00	.50	1.62	.00	.00	.00	.00	.00	.00	.00	.00	.00		
28	.00	.30	17.35	.00	.00	.00	.00	.70	.00	.00	.00	.00		
29	.00	-----	68.69	.00	.00	.00	.00	.00	.00	.00	.00	.00		
30	.00	-----	3.04	.00	.00	.00	.00	.00	.00	.00	.00	.00		
31	.00	-----	1.71	-----	.00	-----	.00	.00	-----	.00	-----	.00		
MEAN	1.21	4.59	8.04	.30	.00	.06	.04	.03	.07	.00	.00	.03		
INCHES	.56	1.94	3.75	.14	.00	.03	.02	.01	.03	.00	.00	.01		

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.01506. QUALITY OF RECORDS: FAIR, ESTIMATED TO BE WITHIN 15% OF ACTUAL.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-4A 62.01			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of March 1-4, 1965 <u>1/</u>										
3-1	.00	<u>2/</u> .0009	3-1	3 RG	AVG <u>3/</u>		3-1	0446	.23	.0000
				0515	.00	.00		0646	.32	.0004
				0530	.04	.01		0830	.85	.0010
				0545	.00	.01		0908	1.59	.0015
				0600	.04	.02		1016	2.23	.0029
				0615	.08	.04		1040	5.30	.0038
				0630	.12	.07		1110	15.47	.0071
				0645	.04	.08		1122	24.00	.0095
				0700	.08	.10		1138	37.98	.0147
				0715	.04	.11		1204	50.75	.0268
				0730	.00	.11		1218	55.76	.0346
				0745	.04	.12		1246	59.61	.0515
				0800	.04	.13		1308	80.00	.0676
				0815	.00	.13		1322	87.75	.0798
				0830	.04	.14		1340	90.95	.0967
				0845	.04	.15		1402	115.00	.1204
				0900	.04	.16		1422	128.90	.1459
				0915	.04	.17		1434	137.05	.1626
				0930	.08	.19		1442	132.96	.1739
				0945	.12	.22		1448	141.13	.1825
				1000	.12	.25		1510	109.13	.2113
				1015	.28	.32		1532	87.75	.2339
				1030	.16	.36		1604	58.31	.2584
				1045	.40	.46		1648	34.31	.2797
				1100	.20	.51		1702	37.02	.2849
				1115	.20	.56		1744	25.96	.2987
				1130	.24	.62		1806	23.36	.3044
				1145	.12	.65		1846	16.76	.3128
				1200	.16	.69		1948	10.51	.3217
				1215	.16	.73		2104	7.24	.3287
				1230	.28	.80		2240	4.83	.3348
				1245	.16	.84		2400	3.60	.3383
				1300	.20	.89	3-2	0850	1.47	.3523
				1315	.28	.96		1648	.35	.3581
				1330	.20	1.01		2400	.62	.3615
				1345	.36	1.10	3-3	2400	.55	.3702
				1400	.32	1.18	3-4	2400	<u>4/</u> .49	.3780
				1415	.04	1.19				
				1430	.04	1.20				
				1445	.04	1.21				
				1500	.04	1.22				
				1515	.08	1.24				
				1530	.04	1.25				
				1545	.08	1.27				
				1600	.04	1.28				
				1615	.00	1.28				
Watershed conditions: 16% of area in cultivation, mostly row crop, poor to fair cover provided by crop residue from 1964 crop; 20% in pasture and 15% idle, fair to good cover; 47% in woods, good cover; 2% bare gullies.										

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.000628. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.1-4. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0446 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 7, 8, AND 18. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3. 4/ BEGINNING OF NEXT RUNOFF EVENT.





March 1, 1965

OXFORD, MISSISSIPPI WATERSHED W-4A

MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI AREA—1,130 ACRES (1.76 SQ. MILES)								WATERSHED W-51/ 62.02	
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965 P <sup>2/</sup>	4.70	7.83	11.09	.98	2.19	1.23	1.32	3.63	4.23	.84	.96	2.12	41.12		
Q	1.69	3.96	6.63	.12	.00	.00	.00	.21	.04	.00	.00	.04	12.69		
STA AV <sup>3/</sup> P	3.95	4.94	5.39	4.66	3.47	3.32	4.18	3.73	4.65	2.09	4.56	4.74	49.68		
(57-65) Q	1.49	1.79	2.02	1.39	.44	.36	.24	.34	.44	.14	.80	1.43	10.88		
MEAN P <sup>4/</sup>															
46 YR	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.54	3-29	.42	3-29	.63	3-29	1.07	3-25	1.28	3-25	2.00	3-24	3.16	3-24	5.25

## MAXIMUMS FOR PERIOD OF RECORD

19 57 to 19 65	3-4 1964	1.19	3-4 1964	.99	3-4 1964	1.63	3-4 1964	2.12	11-13 1957	2.26	12-3 1964	2.97	1-30 1957	3.72	1-27 1957	5.25
----------------	----------	------	----------	-----	----------	------	----------	------	------------	------	-----------	------	-----------	------	-----------	------

NOTES: Watershed conditions: About 12% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 65% in pasture and idle land, good cover April to October with fair cover remainder of year; 22% in woods, good cover; 1% bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1966. They differ from those previously reported. Changes occurred over a period of 4 years prior to 1966. 1/ About 32% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from rain gages 8 and 33. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.

1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI				WATERSHED W- 5 62.02			
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.17	1.35	.00	.00	.00	.00	.00	.44	.00	.00	.00	
2	1.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
3	.00	.00	.00	.64	.00	.00	.00	.00	.00	.00	.00	.00	
4	.00	.00	.00	.00	.00	.00	.84	.00	.16	.00	.00	.00	
5	.00	.00	.19	.00	.00	.00	.31	.00	.00	.00	.00	.00	
6	.00	.18	.05	.00	.00	.35	.00	.09	.00	.77	.00	.00	
7	.00	.00	.00	.00	.00	.00	.00	1.19	.00	.00	.02	.00	
8	.00	1.07	.00	.00	.00	.00	.00	.04	.00	.00	.01	.00	
9	2.41	1.95	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
10	.08	.92	.00	.00	.44	.00	.17	.00	.94	.00	.00	.00	
11	.00	1.85	.12	.00	.17	.09	.00	.00	1.25	.00	.00	.66	
12	.00	.00	.39	.00	.00	.00	.00	.00	.00	.00	.15	1.00	
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
14	.00	.00	.00	.00	.00	.76	.00	.00	.00	.00	.10	.10	
15	.17	.00	.00	.07	.06	.00	.00	.00	.00	.00	.00	.01	
16	.00	.00	.24	.00	.55	.00	.00	.00	.00	.00	.00	.00	
17	.00	.00	1.02	.00	.01	.00	.00	.00	.00	.00	.00	.00	
18	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
20	.00	.00	.00	.00	.68	.00	.00	.00	.12	.02	.00	.00	
21	.00	.07	.00	.00	.00	.00	.00	.00	.45	.00	.34	.00	
22	.53	.00	.00	.00	.00	.00	.00	.00	.35	.05	.00	.00	
23	.36	.00	.00	.00	.00	.03	.00	.04	.00	.00	.00	.00	
24	.00	1.50N	2.30	.00	.00	.00	.00	.00	.00	.00	.00	.35	
25	.00	.00	2.61	.00	.00	.00	.00	.00	.00	.00	.00	.00	
26	.00	.00	.04	.27	.00	.00	.00	.00	.00	.00	.34	.00	
27	.00	.00	.00	.00	.20	.00	.00	1.24	.00	.00	.00	.00	
28	.00	.12	1.28	.00	.08	.00	.00	.98	.00	.00	.00	.00	
29	.00	-----	1.50	.00	.00	.00	.00	.00	.03	.00	.00	.00	
30	.00	-----	.00	.00	.00	.00	.00	.00	.49	.00	.00	.00	
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00	
TOTAL	4.70	7.83	11.09	.98	2.19	1.23	1.32	3.63	4.23	.84	.96	2.12	
STA AV	3.95	4.94	5.39	4.66	3.47	3.32	4.18	3.73	4.65	2.09	4.56	4.74	

NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 8 AND 33. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.

1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI							WATERSHED W-5	62.02
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.00	.00	35.75	.11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	16.60	.00	5.21	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	1.11	.00	1.27	5.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.88	.28	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.76	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.60	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00
7	.00	.00	.12	.00	.00	.00	.00	1.91	.00	.00	.00	.00	.00	.00
8	.00	.41	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	53.70	54.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	5.37	27.62	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.53	83.31	.00	.00	.00	.00	.00	.00	1.69	.00	.00	.00	.00	.00
12	.40	2.06	.56	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.73	.00
13	.25	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.05	.00	19.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.06	.00	.25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.11	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.30	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00
23	.53	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.67	16.72	49.26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.06	.59	93.98	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	1.41	8.86	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.67	.29	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00
28	.00	.40	21.89	.00	.00	.00	.00	7.64	.00	.00	.00	.00	.00	.00
29	.00	-----	73.78	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.40	-----	.00	-----	.00	.00	-----	.00	-----	.00	-----	.00
MEAN	2.59	6.71	10.15	.19	.00	.00	.00	.31	.06	.00	.00	.00	.00	.00
INCHES	1.69	3.96	6.63	.12	.00	.00	.00	.21	.04	.00	.00	.00	.00	.04

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.02106. QUALITY OF RECORDS: GOOD, ESTIMATED TO BE WITHIN 10% OF ACTUAL.

1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI							WATERSHED W-5	62.02
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of March 1-7, 1965 1/														
3-1	.00	2/0040	3-1	2 RG	AVG 3/		3-1	0758	.84	.0000				
				0430	.00	.00		1004	1.84	.0025				
				0445	.04	.01		1042	6.79	.0049				
				0515	.00	.01		1110	40.61	.0146				
				0530	.08	.03		1126	64.00	.0268				
				0545	.04	.04		1156	96.00	.0619				
				0600	.08	.06		1238	100.80	.1223				
				0615	.08	.08		1256	108.00	.1498				
				0630	.08	.10		1320	130.41	.1917				
				0645	.12	.13		1338	163.50	.2303				
				0700	.04	.14		1350	210.00	.2631				
				0715	.04	.15		1406	234.69	.3151				
				0730	.04	.16		1432	202.50	.3983				
				0745	.00	.16		1506	124.28	.4795				
				0800	.04	.17		1554	84.00	.5526				
				0815	.00	.17		1638	67.00	.6012				
				0830	.04	.18		1756	36.00	.6599				
				0845	.04	.19		1908	23.34	.6912				
				0900	.04	.20		2034	15.39	.7155				
				0915	.08	.22		2228	9.52	.7363				
				0930	.04	.23		2400	9.07	.7488				
				0945	.04	.24	3-2	2400	1.34	.8584				
				1000	.12	.27	3-3	2400	1.20	.8852				
				1015	.20	.32	3-4	2400	.57	.9039				
				1030	.12	.35	3-5	2400	.95	.9198				

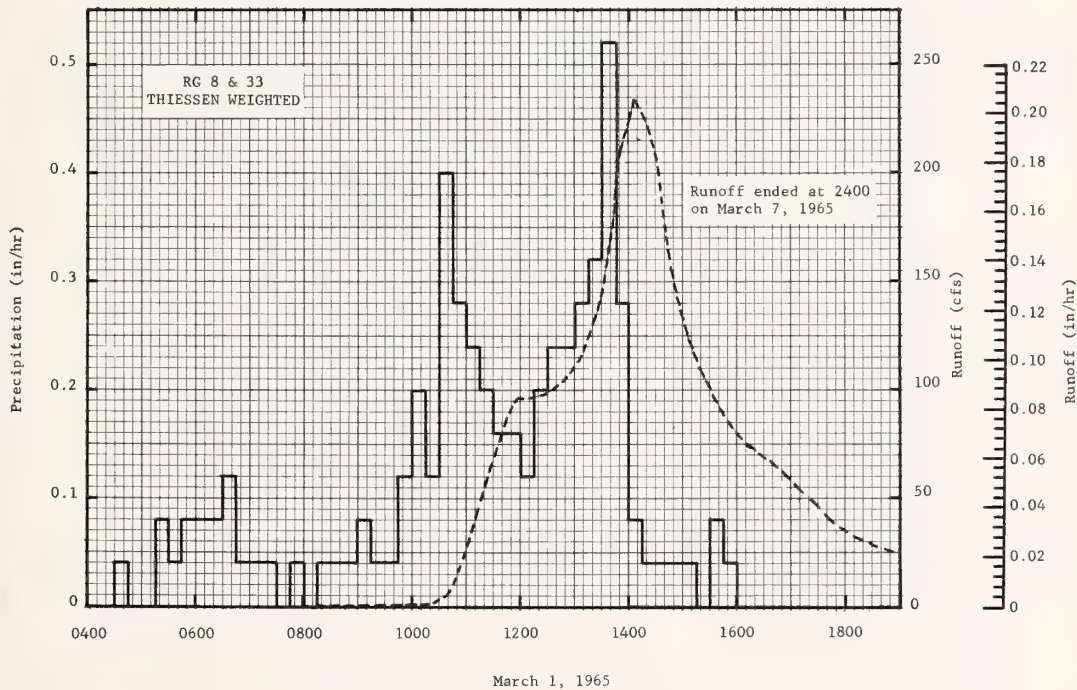
Continued on next page

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.000878. FOR MAP OF WATERSHED, SEE SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, ARS, SWC, JANUARY 1960, P. 62.2-3. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0758 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 8 AND 33. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI			WATERSHED W-5			62.02
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)
			Event of March 1-7, 1965 - Continued						
				1045	.40	.45	3-6	2400	.24
				1100	.28	.52	3-7	2400	.00
				1115	.24	.58			
				1130	.20	.63			
				1145	.16	.67			
				1200	.16	.71			
				1215	.12	.74			
				1230	.20	.79			
				1245	.24	.85			
				1300	.24	.91			
				1315	.28	.99			
				1330	.32	1.06			
				1345	.52	1.19			
				1400	.28	1.26			
				1415	.08	1.28			
				1430	.04	1.29			
				1445	.04	1.30			
				1500	.04	1.31			
				1515	.04	1.32			
				1530	.00	1.32			
				1545	.08	1.34			
				1600	.04	1.35			
				1615	.00	1.35			

Watershed conditions: 12% of area in cultivation, mostly row crop, poor to fair cover provided by crop residue from 1964 crop; 28% in pasture and 37% idle, fair to good cover; 22% in woods, good cover; 1% in bare gullies.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.000878.



OXFORD, MISSISSIPPI WATERSHED W-5



MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI						WATERSHED W-10 <sup>1</sup> / <sub>2</sub>		62.03	
						AREA—5,530 ACRES (8.64 SQ. MILES)									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965	P <sup>2</sup> / <sub>0</sub>	4.44	7.38	10.21	1.16	2.99	1.33	.67	3.68	5.36	1.06	1.13	2.23	41.64	
	O	1.46	3.18	4.86	.13	.00	.00	.00	.00	.00	3/ NR	NR	NR		
STA AV <sup>4</sup> / <sub>P</sub>		4.04	5.07	5.27	4.80	3.90	3.46	4.22	3.56	4.84	2.07	4.65	4.86	50.74	
	(57-65) Q	1.12	1.51	1.52	1.14	.57	.22	.29	.29	.53	5/ .14	5/ .72	5/ 1.39	5/ 9.44	
MEAN	P <sup>6</sup> / <sub>0</sub>														
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.22	3-29	.18	3-29	.33	3-29	.70	3-29	.82	2-10	1.52	3-24	2.41	3-24	4.17

MAXIMUMS FOR PERIOD OF RECORD																
19 57 TO	2-23	1.12	2-23	1.00	2-23	1.61	2-23	2.13	2-23	2.39	12-3	2.66	1-30	2.98	3-24	4.17
19 65	1962		1962		1962		1962		1962		1964		1957		1965	

NOTES: Watershed conditions: About 23% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 35% in pasture and idle land, good cover April to October with fair cover remainder of year; 40% in woods, good cover; 2% in bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1964. 1/ About 20% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from rain gages 13, 14, 20, 24, and 26. 3/ Gaging station inoperative Oct.-Dec. 4/ Precipitation and runoff records began Jan. 1957. 5/ For period of 1957 through 1964. 6/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.

1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI						WATERSHED W-10		62.03	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC			
1	.00	.14	.86	.00	.00	.00	.00	.00	.81	.00	.00	.00			
2	1.31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
3	.00	.00	.00	.75	.00	.00	.00	.00	.00	.00	.00	.00			
4	.00	.00	.00	.00	.00	.00	.00	.32	.00	.01	.00	.00			
5	.00	.00	.18	.00	.00	.00	.00	.03	.00	.00	.00	.00			
6	.00	.14	.06	.01	.00	.26	.00	.33	.00	1.02	.00	.00			
7	.00	.00	.00	.00	.00	.00	.01	1.14	.00	.00	.15	.00			
8	.00	1.01	.00	.00	.00	.00	.00	.02	.00	.00	.04	.00			
9	2.24	1.84	.00	.00	.00	.00	.01	.01	.00	.00	.00	.00			
10	.00	.89	.00	.00	.00	.03	.13	.00	1.03	.00	.00	.00			
11	.00	1.70	.11	.00	.22	.11	.00	.00	1.61	.00	.00	.00			.60
12	.00	.00	.42	.00	.00	.02	.00	.00	.00	.00	.28	1.08			
13	.00	.00	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00			
14	.00	.00	.00	.00	.00	.55	.00	.00	.00	.00	.08	.15			
15	.15	.00	.00	.09	.02	.00	.00	.00	.00	.00	.00	.02			
16	.00	.00	.22	.00	1.05	.00	.00	.00	.00	.00	.00	.00			
17	.00	.00	1.04	.00	.04	.00	.00	.00	.00	.00	.00	.00			
18	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00			
19	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00			
20	.00	.00	.00	.00	1.01	.00	.00	.00	.01	.00	.00	.00			
21	.00	.06	.00	.00	.00	.00	.00	.00	.69	.00	.22	.00			
22	.42	.00	.00	.00	.00	.00	.16	.00	.24	.04	.00	.00			
23	.26	.00	.00	.00	.00	.04	.00	.02	.00	.00	.00	.00			
24	.00	1.43N	2.31	.00	.00	.00	.00	.30	.00	.00	.00	.38			
25	.00	.00	2.25	.00	.00	.00	.01	.00	.00	.00	.00	.00			
26	.00	.00	.05	.31	.00	.00	.00	.00	.00	.00	.36	.00			
27	.00	.00	.00	.00	.19	.00	.00	1.37	.00	.00	.00	.00			
28	.00	.17	1.34	.00	.07	.02	.00	.45	.00	.00	.00	.00			
29	.00	-----	1.42	.00	.00	.00	.00	.05	.00	.00	.00	.00			
30	.00	-----	.00	.00	.00	.01	.00	.00	.91	.00	.00	.00			
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00			
TOTAL	4.44	7.38	10.21	1.16	2.99	1.33	.67	3.68	5.36	1.06	1.13	2.23			
STA AV	4.04	5.07	5.27	4.80	3.90	3.46	4.22	3.56	4.84	2.07	4.65	4.86			

NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 13, 14, 20, 24 AND 26. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.

1965 MEAN DAILY DISCHARGE (cfs) 1/						OXFORD, MISSISSIPPI WATERSHED W-10 62.03						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.74	.00	55.48	2.12	.00	.00	.00	.00	.00			
2	90.36	.00	12.00	1.64	.00	.00	.00	.00	.00			
3	17.62	.00	.19	25.61	.00	.00	.00	.00	.00			
4	4.33	.00	.00	1.18	.00	.00	.00	.00	.00			
5	1.74	.00	.06	.06	.00	.00	.00	.00	.00			
6	1.10	.00	.06	.00	.00	.00	.00	.00	.00			
7	1.10	.00	.00	.00	.00	.00	.00	.00	.00			
8	.90	.03	.00	.00	.00	.00	.00	.00	.00			
9	105.93	184.55	.00	.00	.00	.00	.00	.00	.00			
10	27.63	68.42	.00	.00	.00	.00	.00	.00	.00			
11	5.92	350.75	.00	.00	.00	.00	.00	.00	.00			
12	1.07	26.78	11.02	.00	.00	.00	.00	.00	.00			
13	.16	6.43	.05	.00	.00	.00	.00	.00	.00			
14	.00	.75	.00	.00	.00	.00	.00	.00	.00			
15	.00	.10	.00	.00	.00	.00	.00	.00	.00			
16	.00	.00	.00	.00	.00	.00	.00	.00	.00			
17	.00	.00	79.62	.00	.00	.00	.00	.00	.00			
18	.00	.00	2.66	.00	.00	.00	.00	.00	.00			
19	.00	.00	.12	.00	.00	.00	.00	.00	.00			
20	.00	.00	.00	.00	.00	.00	.00	.00	.00			
21	.00	.00	.00	.00	.00	.00	.00	.00	.00			
22	.00	.00	.00	.00	.00	.00	.00	.00	.00			
23	.00	.00	.00	.00	.00	.00	.00	.00	.00			
24	.00	88.29	206.93	.00	.00	.00	.00	.00	.00			
25	.00	7.48	322.71	.00	.00	.00	.00	.00	.00			
26	.00	2.01	50.34	.00	.00	.00	.00	.00	.00			
27	.00	1.66	12.01	.00	.00	.00	.00	.00	.00			
28	.00	.99	90.79	.00	.00	.00	.00	.00	.00			
29	.00	-----	256.19	.00	.00	.00	.00	.00	.00			
30	.00	-----	22.78	.00	.00	.00	.00	.00	.00			
31	.00	-----	7.20	-----	.00	-----	.00	.00	-----			
MEAN	10.91	26.36	36.46	1.02	.00	.00	.00	.00	.00			
INCHES	1.46	3.18	4.86	.13	.00	.00	.00	.00	.00			

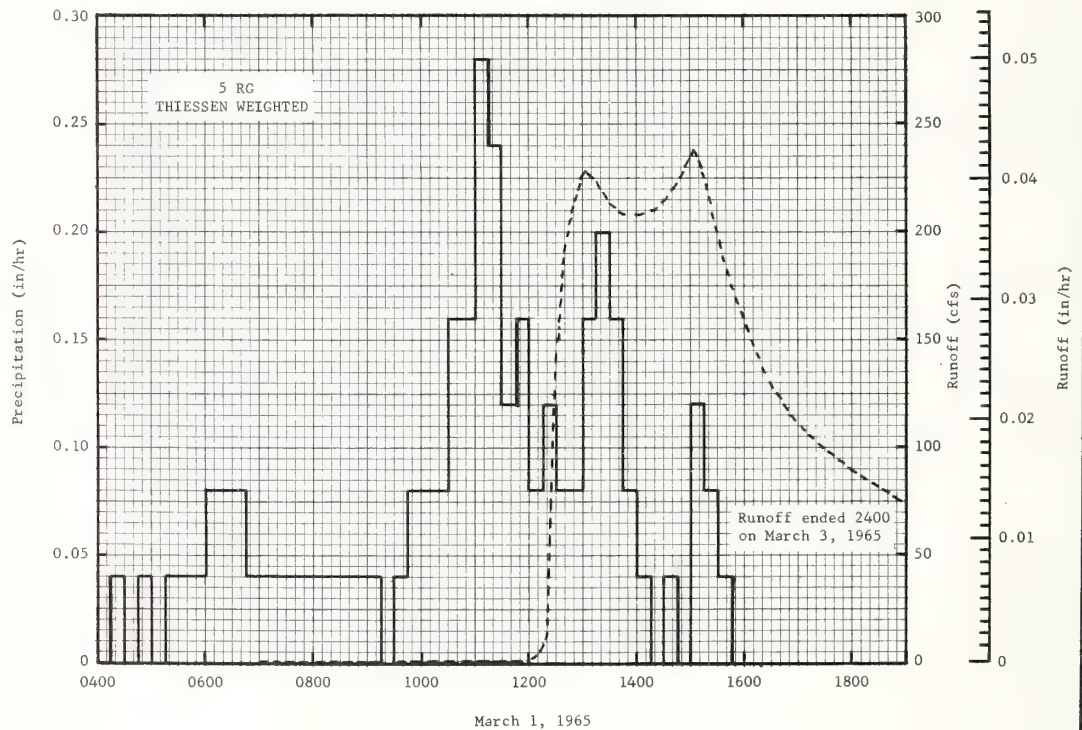
NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0043041. QUALITY OF RECORDS: FAIR, ESTIMATED TO BE WITHIN 15% OF ACTUAL. 1/ GAGING STATION INOPERATIVE OCT.-DEC.

1965		SELECTED RUNOFF EVENT					OXFORD, MISSISSIPPI		WATERSHED W-10		62.03	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of March 1-3, 1965 2/												
3-1	.00	3/ .0011	3-1	5 26	AVG 4/		3-1	0956	.59	.0000		
				0415	.00	.00		1122	1.03	.0003		
				0430	.04	.01		1200	1.62	.0004		
				0445	.00	.01		1210	4.22	.0005		
				0500	.04	.02		1220	14.12	.0008		
				0515	.00	.02		1226	111.71	.0019		
				0530	.04	.03		1240	193.00	.0083		
				0545	.04	.04		1302	228.38	.0221		
				0600	.04	.05		1342	208.63	.0482		
				0615	.08	.07		1424	211.84	.0746		
				0630	.08	.09		1502	238.78	.1002		
				0645	.08	.11		1536	189.97	.1220		
				0700	.04	.12		1628	130.59	.1469		
				0715	.04	.13		1714	104.96	.1631		
				0730	.04	.14		1814	85.79	.1802		
				0745	.04	.15		2056	52.31	.2136		
				0800	.04	.16		2400	35.16	.2377		
				0815	.04	.17	3-2	0600	15.90	.2651		
				0830	.04	.18		1200	11.56	.2799		
				0845	.04	.19		1758	2.80	.2876		
				0900	.04	.20		2400	.39	.2893		
				0915	.04	.21	3-3	2400	.00	.2901		
				0930	.00	.21						
				0945	.04	.22						
				1000	.08	.24						
Continued on next page												

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0001793. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.3-3. 2/ ISOHYETAL MAP ON P. 62.11-5. 3/ RUNOFF PRIOR TO 0956 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 4/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 13, 14, 20, 24 AND 26. DAILY TOTALS FOR INDIVIDUAL GAGES LISTED ON P. 62.11-3.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-10 62.03			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of March 1-3, 1965 - Continued										
Watershed conditions: 23% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 11% in pasture and 24% idle with fair to good cover; 40% in woods, good cover; 2% in bare gullies.					1015	.08				
					1030	.08				
					1045	.16				
					1100	.16				
					1115	.28				
					1130	.24				
					1145	.12				
					1200	.16				
					1215	.08				
					1230	.12				
					1245	.08				
					1300	.08				
					1315	.16				
					1330	.20				
					1345	.16				
					1400	.08				
					1415	.04				
					1430	.00				
					1445	.04				
					1500	.00				
					1515	.12				
					1530	.08				
					1545	.04				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0001793.



OXFORD, MISSISSIPPI WATERSHED W-10

MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI WATERSHED W-121/ AREA—22,800 ACRES (35.6 SQ. MILES)								62.04		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>2</sup> / <sub>Q</sub>	4.24	7.05	10.39	1.03	2.50	1.47	1.89	2.69	4.91	.85	1.44	2.08	40.54		
		1.27	2.44	5.10	.17	.04	.01	.09	.02	.03	.02	.02	.02	9.23		
STA AV <sup>3</sup> / <sub>P</sub> (57-65) Q	P <sup>3</sup> / <sub>Q</sub>	3.92	4.90	5.20	4.60	3.50	3.48	4.28	3.41	4.63	2.07	4.57	4.63	49.19		
		.82	1.12	1.25	.73	.32	.21	.19	.14	.28	.06	.38	.77	6.27		
46 YR	MEAN P <sup>4</sup> / <sub>Q</sub>	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.23	3-29	.22	3-29	.42	3-29	.88	3-29	1.18	3-28	1.78	3-24	2.28	3-24	4.36
MAXIMUMS FOR PERIOD OF RECORD																
1957 TO 1965	2-23 1962	.35	2-23 1962	.35	2-23 1962	.68	2-23 1962	1.38	2-23 1962	1.62	2-23 1962	1.84	1-30 1957	2.28	3-24 1965	4.36
NOTES: Watershed conditions: About 18% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 44% in pasture and idle land, good cover April to October with fair cover remainder of year; 33% in woods, good cover; 1% in bare gullies; 4% urban. Percentages of total area in various land use categories are based on the latest survey completed in 1963. 1/ About 23% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from 16 rain gages. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.																
1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI WATERSHED W-12 62.04										
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.14	1.12	.00	.00	.00	.00	.00	.73	.00	.00	.00				
2	.94	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.69	.00	.00	.00	.00	.00	.00	.00	.00				
4	.00	.00	.01	.00	.00	.00	1.45	.00	.06	.00	.00	.00				
5	.00	.00	.17	.00	.00	.00	.05	.00	.00	.00	.00	.00				
6	.00	.14	.06	.02	.00	.45	.00	.09	.00	.79	.00	.00				
7	.00	.00	.00	.00	.00	.00	.02	1.04	.00	.00	.13	.00				
8	.00	.85	.00	.00	.00	.00	.08	.05	.00	.00	.04	.00				
9	2.31	1.85	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00				
10	.07	.82	.00	.00	.45	.01	.12	.00	1.09	.00	.00	.00				
11	.00	1.70	.12	.00	.19	.03	.00	.00	1.38	.01	.00	.59				
12	.00	.00	.37	.00	.00	.03	.00	.00	.00	.00	.24	.99				
13	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.08	.00				
14	.00	.00	.00	.00	.00	.82	.02	.00	.00	.00	.28	.16				
15	.19	.00	.00	.04	.05	.04	.00	.00	.00	.00	.00	.01				
16	.00	.00	.23	.00	.98	.00	.00	.00	.00	.00	.00	.00				
17	.00	.00	.96	.00	.07	.00	.00	.00	.00	.00	.00	.00				
18	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00				
19	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00				
20	.00	.00	.00	.00	.51	.00	.00	.00	.17	.01	.00	.00				
21	.00	.06	.00	.00	.00	.00	.00	.00	.51	.00	.35	.00				
22	.44	.00	.00	.00	.00	.00	.13	.00	.30	.04	.00	.00				
23	.29	.00	.00	.00	.00	.01	.00	.03	.00	.00	.00	.00				
24	.00	1.38N	2.03	.00	.00	.00	.00	.06	.00	.00	.00	.33				
25	.00	.00	2.47	.00	.00	.00	.01	.00	.00	.00	.00	.00				
26	.00	.00	.04	.28	.00	.00	.00	.00	.00	.00	.32	.00				
27	.00	.00	.00	.00	.18	.00	.00	.79	.00	.00	.00	.00				
28	.00	.11	1.26	.00	.07	.02	.00	.55	.00	.00	.00	.00				
29	.00	-----	1.55	.00	.00	.00	.00	.00	.04	.00	.00	.00				
30	.00	-----	.00	.00	.00	.04	.00	.00	.61	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00				
TOTAL	4.24	7.05	10.39	1.03	2.50	1.47	1.89	2.69	4.91	.85	1.44	2.08				
STA AV	3.92	4.90	5.20	4.60	3.50	3.48	4.28	3.41	4.63	2.07	4.57	4.63				
NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 4-9, 13, 15, 18, 19, 20, 25, 29, 30, 31, AND 33. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.																



1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI							WATERSHED W-12 62.04	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.61	6.87	359.03	11.56	1.62	.56	.39	.47	1.72	.38	.60	.51		
2	114.70	7.23	32.97	7.95	1.55	.56	.25	.47	.43	.38	.56	.47		
3	14.94	7.23	11.13	65.73	1.55	.51	.20	.42	.35	.35	.66	.47		
4	2.52	7.23	8.28	16.10	1.55	.46	69.68	.42	.35	.31	.61	.47		
5	4.24	6.88	10.20	5.90	1.55	.51	5.86	.36	.31	.35	.36	.47		
6	3.10	6.70	10.99	4.34	1.62	.56	.71	.40	.35	1.09	.25	.47		
7	2.66	7.05	7.48	3.68	1.62	.56	.63	1.22	.35	.84	.32	.39		
8	2.29	8.92	5.84	3.10	1.62	.56	.35	.63	.28	.60	.47	.31		
9	665.50	469.56	5.35	2.76	1.86	.43	.31	.38	.22	.52	.51	.25		
10	155.46	288.14	4.39	2.76	2.20	.31	.35	.38	.66	.47	.47	.18		
11	24.60	1167.29	3.56	2.76	2.04	.31	.38	.38	18.12	.47	.47	.39		
12	19.79	78.94	12.76	2.66	1.55	.31	.38	.38	1.37	.42	.90	5.87		
13	16.09	12.06	6.93	2.13	1.40	.28	.38	.38	.72	.39	.65	.56		
14	12.52	7.23	5.51	2.45	1.33	2.92	.38	.35	.60	.39	2.29	.23		
15	12.84	6.52	5.35	2.70	1.13	.39	.38	.31	.60	.42	.66	.38		
16	12.58	5.67	7.21	2.38	3.98	.35	.38	.35	.56	.42	.47	.47		
17	10.51	4.64	205.90	2.56	.88	.38	.38	.29	.56	.42	.42	.51		
18	10.51	3.93	4.95	2.47	.76	.32	.42	.41	.51	.47	.42	.51		
19	10.26	3.56	1.16	2.37	.71	.25	.46	.25	.51	.51	.47	.47		
20	9.53	3.09	.46	2.20	.76	.28	.46	.25	.38	.42	.51	.39		
21	8.83	2.98	.86	2.11	.87	.31	.46	.25	.35	.38	.51	.35		
22	14.18	2.98	.91	2.11	.87	.31	.42	.25	.42	.38	.51	.38		
23	16.56	2.77	.66	1.94	.87	.31	.38	.28	.40	.35	.47	.38		
24	11.21	172.05	539.58	1.78	.82	.31	.38	.31	.28	.39	.56	.79		
25	9.28	10.22	1493.81	1.62	.82	.31	.42	.28	.31	.47	.60	.66		
26	8.86	21.92	246.90	1.96	.82	.31	.46	.25	.39	.51	.73	.51		
27	8.20	12.34	53.32	2.04	.71	.31	.42	.38	.33	.60	.87	.47		
28	8.20	5.35	204.57	1.78	.65	.31	.38	6.43	.16	.65	.56	.47		
29	8.00	-----	1571.64	1.70	.60	.39	.42	.39	.14	.60	.51	.47		
30	7.42	-----	44.98	1.62	.66	.46	.46	.43	.72	.51	.56	.39		
31	6.87	-----	19.66	-----	.66	-----	.46	.60	-----	.56	-----	.31		
MEAN	39.12	83.54	157.62	5.57	1.27	.47	2.82	.59	1.08	.48	.59	.61		
INCHES	1.27	2.44	5.10	.17	.04	.01	.09	.02	.03	.02	.02	.02		

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0010439. QUALITY OF RECORDS: GOOD, ESTIMATED TO BE WITHIN 10% OF ACTUAL.

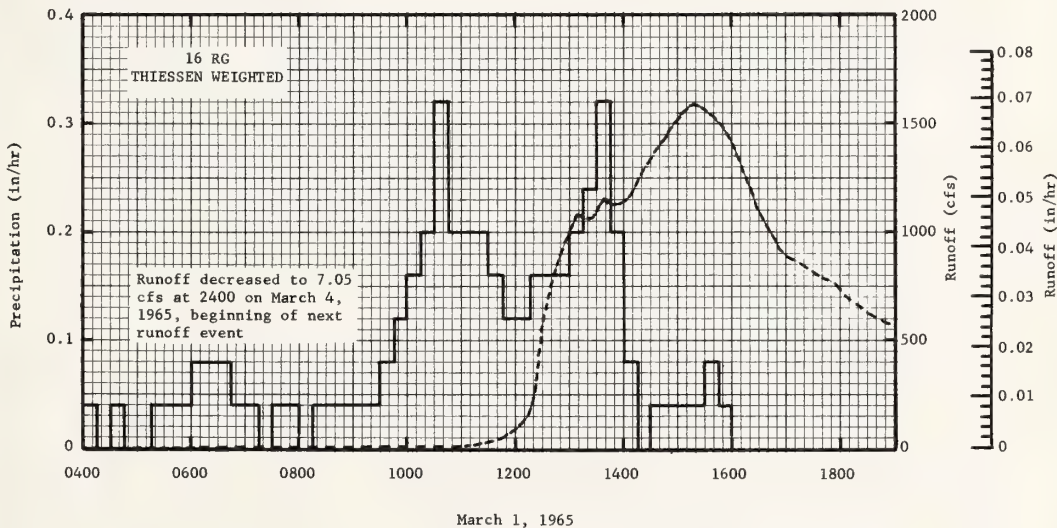
1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI						WATERSHED W-12 62.04	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)			
Event of March 1-4, 1965 1/													
3-1	.00	.0000	3-1	16 20	AVG 2/		2-28	2400	5.35	.0000			
				0400	.00	.00	3-1	0612	5.67	.0015			
				0415	.04	.01		1038	9.51	.0030			
				0430	.00	.01		1104	13.36	.0032			
				0445	.04	.02		1110	18.19	.0033			
				0500	.00	.02		1134	35.05	.0037			
				0515	.00	.02		1200	86.65	.0049			
				0530	.04	.03		1216	185.27	.0065			
				0545	.04	.04		1228	514.84	.0095			
				0600	.04	.05		1240	765.52	.0131			
				0615	.08	.07		1256	958.00	.0251			
				0630	.08	.07		1308	1078.00	.0339			
				0645	.08	.11		1322	1054.00	.0447			
				0700	.04	.12		1338	1162.00	.0576			
				0715	.04	.13		1348	1132.00	.0659			
				0730	.00	.13		1356	1132.00	.0725			
				0745	.04	.14		1408	1174.00	.0825			
				0800	.04	.15		1424	1300.00	.0960			
				0815	.00	.15		1448	1450.00	.1200			
				0830	.04	.16		1502	1548.00	.1360			
				0845	.04	.17		1518	1590.00	.1542			
				0900	.04	.18		1534	1548.00	.1724			
				0915	.04	.19		1600	1407.68	.2002			
				0930	.04	.20		1644	994.00	.2385			
				0945	.08	.22		1654	922.00	.2495			
Continued on next page													

Continued on next page

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0000435. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.4-6. 1/ ISOHYETAL MAP ON P. 62.11-5. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 2/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 4-9, 13, 15, 18-20, 25, 29-31 AND 33. DAILY TOTALS FOR INDIVIDUAL GAGES LISTED ON P. 62.11-3.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-12 62.04			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of March 1-4, 1965 - Continued										
Watershed conditions: 18% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 16% in pasture and 28% idle with fair to good cover; 33% in woods, good cover; 1% in bare gullies; 4% urban.				1000	.12	.25		1708	874.00	.2546
				1015	.16	.29		1742	777.84	.2750
				1030	.20	.34		1756	759.37	.2826
				1045	.32	.42		1822	645.00	.2960
				1100	.20	.47		1946	475.30	.3301
				1115	.20	.52		2024	373.64	.3418
				1130	.20	.57		2058	333.76	.3505
				1145	.16	.61		2138	243.50	.3589
				1200	.12	.64		2220	180.50	.3653
				1215	.12	.67		2300	123.78	.3698
				1230	.16	.71		2316	119.86	.3712
				1245	.16	.75		2400	109.99	.3748
				1300	.16	.79	3-2	0150	81.58	.3825
				1315	.20	.84		0308	57.51	.3864
				1330	.24	.90		0846	30.86	.3972
				1345	.32	.98		1614	14.64	.4046
				1400	.20	1.03		2400	12.75	.4092
				1415	.08	1.05	3-3	2400	9.51	.4209
				1430	.00	1.05	3-4	2400	1/ 7.05	.4295
				1445	.04	1.06				
				1500	.04	1.07				
				1515	.04	1.08				
				1530	.04	1.09				
				1545	.08	1.11				
				1600	.04	1.12				
				1615	.00	1.12				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0000435. 1/ BEGINNING OF NEXT RUNOFF EVENT



OXFORD, MISSISSIPPI WATERSHED W-12

MONTHLY PRECIPITATION AND RUNOFF (inches)							OXFORD, MISSISSIPPI				WATERSHED W-17 <sup>1/</sup>				62.05	
							AREA—32,100 ACRES (50.2 SQ. MILES)									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>2/</sup>	4.25	7.02	10.39	1.09	2.46	1.59	1.79	2.86	5.09	.90	1.58	2.13	41.15		
	O	1.61	3.08	5.66	.59	.26	.22	.27	.21	.30	.25	.22	.22	12.89		
	STA AV <sup>3/</sup>	3.98	4.92	5.16	4.66	3.52	3.53	4.30	3.57	4.50	2.07	4.56	4.72	49.49		
	(57-65) Q	1.11	1.44	1.64	1.04	.60	.37	.39	.41	.47	.26	.64	1.10	9.47		
MEAN P <sup>4/</sup>																
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.19	3-29	.19	3-29	.36	3-29	.86	3-29	1.12	3-28	1.81	3-24	2.39	3-24	4.68
MAXIMUMS FOR PERIOD OF RECORD																
19 57 TO	2-23	.21	2-23	.21	2-23	.41	2-23	1.12	2-23	1.50	12-3	2.01	3-24	2.39	3-24	4.68
19 65	1962		1962		1962		1962		1962		1964		1965		1965	
NOTES: Watershed conditions: About 19% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 38% in pasture and idle land, good cover April to October with fair cover remainder of year; 38% in woods, good cover; 2% in bare gullies; 3% urban. Percentages of total area in various land use categories are based on the latest survey completed in 1965. Changes occurred over a period of 5 years prior to 1965. 1/ About 22% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from 21 rain gages. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.																
1965 DAILY PRECIPITATION (inches)							OXFORD, MISSISSIPPI						WATERSHED W-17		62.05	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.14	1.05	.00	.00	.00	.00	.00	.83	.00	.00	.00	.00			
2	.92	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
3	.00	.00	.00	.73	.00	.00	.00	.00	.00	.00	.00	.00	.00			
4	.00	.00	.01	.00	.00	.00	1.40	.00	.04	.00	.00	.00	.00			
5	.00	.00	.18	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00			
6	.00	.13	.06	.03	.00	.38	.00	.12	.00	.84	.00	.00	.00			
7	.00	.00	.00	.00	.00	.00	.01	1.06	.00	.00	.17	.00	.00			
8	.00	.80	.00	.00	.00	.00	.06	.08	.00	.00	.04	.00	.00			
9	2.37	1.79	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
10	.07	.82	.00	.00	.41	.01	.11	.00	1.09	.00	.00	.00	.00			
11	.00	1.78	.12	.00	.18	.02	.00	.00	1.43	.01	.00	.56				
12	.00	.00	.38	.00	.00	.07	.00	.00	.00	.00	.27	1.04				
13	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.06	.00				
14	.00	.00	.00	.00	.00	.89	.04	.00	.00	.00	.39	.17				
15	.19	.00	.00	.03	.04	.02	.00	.00	.00	.00	.00	.01				
16	.00	.00	.22	.00	.94	.00	.00	.00	.00	.00	.00	.00				
17	.00	.00	.95	.00	.09	.00	.00	.00	.00	.00	.00	.00				
18	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00				
19	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.00	.00				
20	.00	.00	.00	.00	.56	.00	.00	.00	.13	.01	.00	.00				
21	.00	.06	.00	.00	.00	.00	.00	.00	.59	.00	.33	.00				
22	.43	.00	.00	.00	.00	.00	.11	.00	.28	.04	.00	.00				
23	.27	.00	.00	.00	.00	.02	.02	.03	.00	.00	.00	.00				
24	.00	1.38N	2.01	.00	.00	.00	.00	.09	.00	.00	.00	.35				
25	.00	.00	2.49	.00	.00	.00	.01	.00	.00	.00	.00	.00				
26	.00	.00	.04	.30	.00	.00	.00	.00	.00	.00	.32	.00				
27	.00	.00	.00	.00	.17	.00	.00	.75	.00	.00	.00	.00				
28	.00	.12	1.36	.00	.06	.03	.00	.58	.00	.00	.00	.00				
29	.00	-----	1.52	.00	.00	.00	.00	.03	.00	.00	.00	.00				
30	.00	-----	.00	.00	.00	.06	.00	.00	.66	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00				
TOTAL	4.25	7.02	10.39	1.09	2.46	1.59	1.79	2.86	5.09	.90	1.58	2.13				
STA AV	3.98	4.92	5.16	4.66	3.52	3.53	4.30	3.57	4.50	2.07	4.56	4.72				
NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 2, 4-9, 13-15, 17-20, 22, 25, 28-31, AND 33. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.																



1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI			WATERSHED W-17			62.05
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	14.85	25.95	467.62	68.46	12.40	9.76	8.40	8.40	16.65	12.42	11.40	10.25
2	241.97	25.48	80.27	62.46	12.40	9.51	8.62	8.20	10.25	11.29	9.76	10.00
3	31.33	24.52	29.36	201.93	12.11	9.51	8.62	7.99	9.53	11.57	9.76	9.76
4	15.63	24.52	23.58	49.48	12.11	9.51	89.15	7.99	9.53	13.34	9.76	9.76
5	13.41	23.57	26.04	24.54	11.84	9.51	32.31	7.79	9.76	13.63	10.00	10.00
6	11.56	23.09	23.91	19.79	11.56	9.76	11.86	6.58	9.76	18.07	10.25	10.00
7	10.78	23.57	16.39	18.89	11.29	10.00	10.77	9.28	9.76	13.15	10.25	10.00
8	10.00	26.61	16.77	18.89	11.02	9.76	10.51	8.01	9.28	11.02	10.00	9.76
9	950.86	636.01	17.18	19.79	11.02	9.51	10.25	8.61	9.53	11.57	10.25	9.76
10	239.36	506.75	15.44	19.35	11.86	9.51	9.76	8.01	11.14	11.84	10.01	10.00
11	54.89	2007.94	15.03	18.45	11.86	9.76	9.51	7.60	69.56	11.56	10.01	10.52
12	39.65	198.80	45.73	17.22	10.51	10.00	9.06	7.79	17.88	11.29	10.77	42.65
13	32.47	30.22	23.60	16.80	10.25	10.10	8.40	7.99	13.34	11.29	10.77	10.30
14	29.32	14.64	17.30	18.46	10.51	25.77	8.62	7.99	12.11	11.03	13.39	8.62
15	32.41	13.29	15.27	17.67	10.25	11.64	8.62	7.99	11.84	11.03	11.60	7.99
16	31.43	12.99	21.87	15.63	18.53	10.00	8.19	7.99	11.56	10.78	10.25	7.79
17	27.38	12.40	362.68	15.27	12.70	9.52	8.19	8.20	11.56	10.00	10.00	7.41
18	26.90	12.70	30.39	15.27	11.06	8.62	7.99	10.52	11.29	10.25	10.25	7.22
19	26.90	13.29	21.66	14.59	10.00	7.99	7.60	9.06	10.77	10.51	10.01	7.40
20	25.95	13.29	18.98	13.60	17.18	7.99	7.40	8.83	10.01	10.01	9.76	7.40
21	24.52	12.99	16.77	13.29	11.06	8.40	7.40	8.83	11.74	9.76	9.76	7.04
22	27.08	12.40	16.77	13.29	9.52	8.40	7.40	8.61	12.16	9.76	9.28	6.68
23	40.53	12.11	17.61	13.29	9.28	8.19	7.40	8.83	11.02	9.28	8.83	6.18
24	36.13	297.74	773.96	12.99	9.28	8.19	7.40	9.05	11.02	9.28	8.83	7.25
25	28.35	36.93	2166.22	12.12	8.83	8.40	7.40	9.05	11.29	9.28	9.05	7.64
26	25.95	55.44	448.74	12.42	8.61	8.83	7.40	9.05	11.56	9.05	9.53	6.86
27	24.52	34.15	86.33	13.29	9.06	8.62	7.60	9.28	11.84	9.05	10.00	6.86
28	25.00	20.72	224.01	12.70	9.51	8.62	7.79	25.07	12.11	9.28	9.76	6.68
29	24.52	-----	2335.44	12.40	9.51	9.05	7.79	10.51	12.11	9.51	9.51	6.68
30	24.05	-----	171.69	12.40	9.51	8.83	7.79	10.00	14.89	9.51	10.01	6.68
31	24.52	-----	90.86	-----	9.76	-----	7.99	9.76	-----	11.40	-----	6.68
MEAN	70.07	148.28	246.37	26.49	11.11	9.77	11.84	9.12	13.49	10.99	10.09	9.41
INCHES	1.61	3.08	5.66	.59	.26	.22	.27	.21	.30	.25	.22	.22

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0007415. QUALITY OF RECORDS: GOOD, ESTIMATED TO BE WITHIN 10% OF ACTUAL.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-17 62.05			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of March 1-4, 1965 1/										
3-1	.00	2/.0047	3-1	21 RG	AVG 3/		3-1	0730	20.25	.0000
				0400	.00	.00		1032	29.81	.0024
				0415	.04	.01		1106	41.96	.0030
				0430	.00	.01		1158	103.80	.0050
				0445	.00	.01		1232	180.60	.0075
				0500	.00	.01		1254	533.68	.0115
				0515	.04	.02		1256	929.47	.0123
				0530	.00	.02		1302	996.89	.0152
				0545	.04	.03		1308	1009.19	.0183
				0600	.04	.04		1330	1220.00	.0310
				0615	.08	.06		1408	1385.76	.0565
				0630	.08	.08		1438	1540.00	.0791
				0645	.08	.10		1500	1690.26	.0973
				0700	.04	.11		1518	1894.00	.1140
				0715	.04	.12		1534	2062.00	.1303
				0730	.04	.13		1600	2034.00	.1577
				0745	.00	.13		1640	1704.37	.1962
				0800	.04	.14		1716	1362.48	.2246
				0815	.04	.15		1816	945.71	.2602
				0830	.00	.15		1902	748.00	.2803
				0845	.04	.16		1934	643.50	.2918
				0900	.04	.17		1954	610.50	.2982
				0915	.04	.18		2038	539.00	.3112
				0930	.04	.19		2054	497.87	.3155
				0945	.04	.20		2136	281.00	.3239

Continued on next page

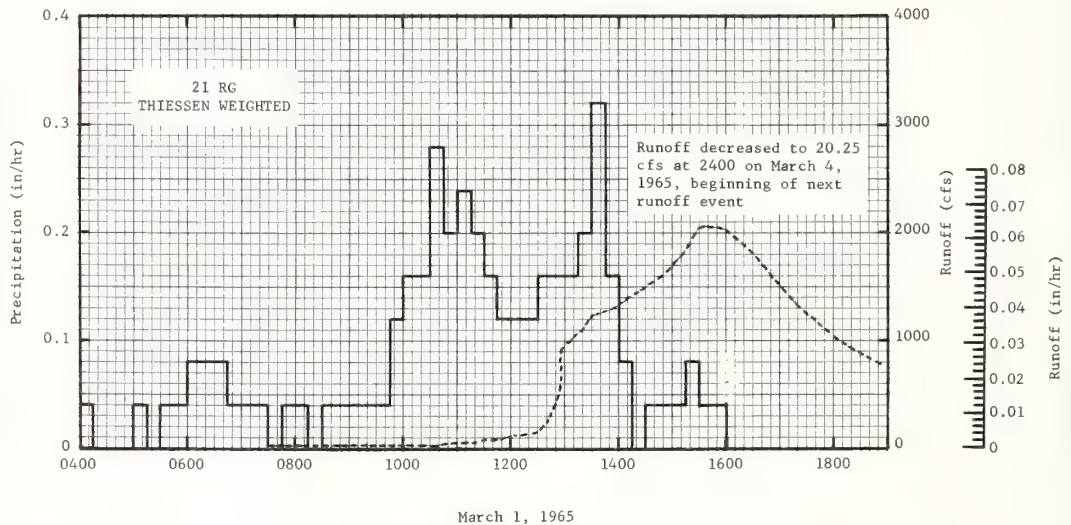
Continued on next page

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0000309. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59 USDA MISC. PUB. 945, P. 62.5-5. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0730 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 2, 4-9, 13-15, 17-20, 22, 25, 28-31 AND 33. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3.



1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-17 02.05			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of March 1-4, 1965 - Continued										
Watershed conditions: 19% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 17% in pasture and 21% idle, fair to good cover; 38% in woods, good cover; 2% in bare gullies; 3% urban.				1000	.12	.23		2230	256.00	.3414
				1015	.16	.27		2400	204.52	.3421
				1030	.16	.31	3-2	0214	144.06	.3545
				1045	.28	.38		0430	171.50	.3635
				1100	.20	.43		0850	79.12	.3773
				1115	.24	.49		1458	53.81	.3896
				1130	.20	.54		2400	31.82	.4016
				1145	.16	.58	3-3	2400	26.90	.4234
				1200	.12	.61	3-4	2400	1/ 20.25	.4400
				1215	.12	.64				
				1230	.12	.67				
				1245	.16	.71				
				1300	.16	.75				
				1315	.16	.79				
				1330	.20	.84				
				1345	.32	.92				
				1400	.16	.96				
				1415	.08	.98				
				1430	.00	.98				
				1445	.04	.99				
				1500	.04	1.00				
				1515	.04	1.01				
				1530	.08	1.03				
				1545	.04	1.04				
				1600	.04	1.05				
				1615	.00	1.05				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0000309. 1/ BEGINNING OF NEXT RUNOFF EVENT.



OXFORD, MISSISSIPPI WATERSHED W-17

MONTHLY PRECIPITATION AND RUNOFF (inches)							OXFORD, MISSISSIPPI WATERSHED W-24 <sup>1/</sup> AREA—512 ACRES							62.07		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>2/</sup>	4.32	7.14	10.84	1.29	2.29	1.05	3.07	1.75	5.58	.73	2.19	2.10	42.35		
	Q	1.36	3.22	5.96	.20	.02	.00	.19	.01	.15	.00	.03	.06	11.20		
STA AV <sup>3/</sup>	P	4.02	5.02	5.23	4.58	3.60	3.47	4.28	3.29	4.37	2.05	4.56	4.69	49.16		
	Q (57-65)	1.18	1.60	1.51	1.17	.45	.14	.18	.12	.22	.06	.50	.93	8.06		
MEAN	P <sup>4/</sup>															
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.70	3-29	.52	3-28	.68	3-29	1.20	3-28	1.81	3-28	2.39	3-28	2.58	3-24	5.32
MAXIMUMS FOR PERIOD OF RECORD																
19 57 TO 19 65	2-23 1962	1.04	2-23 1962	.90	2-23 1962	1.36	2-23 1962	1.64	2-23 1962	1.86	3-28 1965	2.39	1-30 1957	3.16	3-24 1965	5.32
NOTES: Watershed conditions: About 3% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 22% in pasture and idle land, good cover April to October with fair cover remainder of year; 73% in woods, good cover; 2% in bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1962. 1/ About 9% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from rain gages 4 and 30. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.																
1965 DAILY PRECIPITATION (inches)							OXFORD, MISSISSIPPI WATERSHED W-24							62.07		
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.12	1.08	.00	.00	.00	.00	.00	.92	.00	.00	.00				
2	.79	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.87	.00	.00	.00	.00	.00	.00	.00	.00				
4	.00	.00	.04	.00	.00	.00	2.48	.00	.05	.00	.00	.00				
5	.00	.00	.22	.00	.00	.00	.00	.00	.00	.00	.00	.00				
6	.00	.13	.08	.07	.00	.26	.00	.06	.00	.67	.00	.00				
7	.00	.01	.00	.00	.00	.00	.05	.92	.00	.00	.31	.00				
8	.01	.64	.00	.00	.00	.00	.18	.15	.00	.00	.08	.00				
9	2.61	2.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
10	.08	.77	.00	.00	.68	.00	.10	.00	1.20	.00	.00	.00				
11	.00	1.66	.14	.00	.23	.00	.00	.00	1.57	.04	.00	.48				
12	.00	.00	.36	.00	.00	.00	.00	.00	.00	.00	.35	1.05				
13	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.51	.00				
14	.00	.00	.00	.00	.00	.61	.00	.00	.00	.00	.43	.22				
15	.21	.00	.00	.02	.02	.04	.00	.00	.00	.00	.00	.02				
16	.00	.00	.15	.00	.70	.00	.00	.00	.00	.00	.00	.00				
17	.00	.00	.97	.00	.13	.00	.00	.00	.00	.00	.00	.00				
18	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00				
19	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00				
20	.00	.00	.00	.00	.30	.00	.00	.00	.40	.00	.00	.00				
21	.00	.07	.00	.00	.00	.00	.03	.00	.44	.01	.23	.00				
22	.39	.00	.00	.00	.00	.00	.23	.00	.15	.01	.00	.00				
23	.23	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00				
24	.00	1.60N	1.75	.00	.00	.00	.00	.03	.00	.00	.00	.33				
25	.00	.00	2.70	.00	.00	.00	.00	.00	.00	.00	.00	.00				
26	.00	.00	.05	.33	.00	.00	.00	.00	.00	.00	.28	.00				
27	.00	.00	.00	.00	.17	.00	.00	.34	.00	.00	.00	.00				
28	.00	.11	1.42	.00	.06	.03	.00	.23	.00	.00	.00	.00				
29	.00	-----	1.88	.00	.00	.00	.00	.00	.05	.00	.00	.00				
30	.00	-----	.00	.00	.00	.06	.00	.00	.71	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00				
TOTAL	4.32	7.14	10.84	1.29	2.29	1.05	3.07	1.75	5.58	.73	2.19	2.10				
STA AV	4.02	5.02	5.23	4.58	3.60	3.47	4.28	3.29	4.37	2.05	4.56	4.69				
NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 4 AND 30. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.																

1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI			WATERSHED W-24			62.07	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.00	7.25	.00	.00	.00	.00	.00	.21	.00	.00	.00	
2	1.00	.00	.24	.00	.00	.00	.00	.00	.00	.00	.00	.00	
3	.75	.00	.10	3.10	.00	.00	.00	.00	.00	.00	.00	.00	
4	.12	.00	.00	.55	.00	.00	4.09	.00	.00	.00	.00	.00	
5	.00	.07	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	
6	.00	.07	.00	.20	.00	.00	.00	.00	.00	.01	.00	.00	
7	.00	.00	.00	.16	.00	.00	.00	.30	.00	.00	.00	.00	
8	.00	.02	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00	
9	16.74	13.77	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00	
10	4.23	5.70	.00	.00	.28	.00	.00	.00	.43	.00	.00	.00	
11	1.47	27.47	.00	.00	.15	.00	.00	.00	1.35	.00	.00	.00	
12	1.20	1.90	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.38	
13	1.10	.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
14	1.10	.70	.00	.00	.00	.00	.00	.00	.00	.00	.56	.00	
15	.92	.43	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
16	.46	.21	.00	.00	.25	.00	.00	.00	.00	.00	.00	.00	
17	.00	.15	4.86	.00	.00	.00	.00	.00	.00	.00	.00	.00	
18	.00	.18	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	
19	.00	.23	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	
20	.00	.23	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	
21	.00	.23	.13	.00	.00	.00	.00	.00	.13	.00	.00	.00	
22	.00	.20	.16	.00	.00	.00	.00	.00	.00	.00	.00	.00	
23	.00	.14	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	
24	.00	5.13	6.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	
25	.00	4.60	42.24	.00	.00	.00	.00	.00	.00	.00	.00	.00	
26	.00	2.46	0.54	.00	.00	.00	.00	.00	.00	.00	.00	.00	
27	.00	2.54	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
28	.00	2.15	4.78	.00	.00	.00	.00	.00	.00	.00	.00	.00	
29	.00	-----	49.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	
30	.00	-----	2.80	.00	.00	.00	.00	.00	.73	.00	.00	.00	
31	.00	-----	.31	-----	.00	-----	.00	.00	-----	.00	-----	.00	
MEAN	.75	2.47	4.14	.15	.01	.00	.13	.01	.11	.00	.02	.04	
INCHES	1.46	3.22	5.91	.20	.02	.00	.17	.01	.15	.00	.03	.06	

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.046488. QUALITY OF RECORDS: FAIR, ESTIMATED TO BE WITHIN 15% OF ACTUAL.

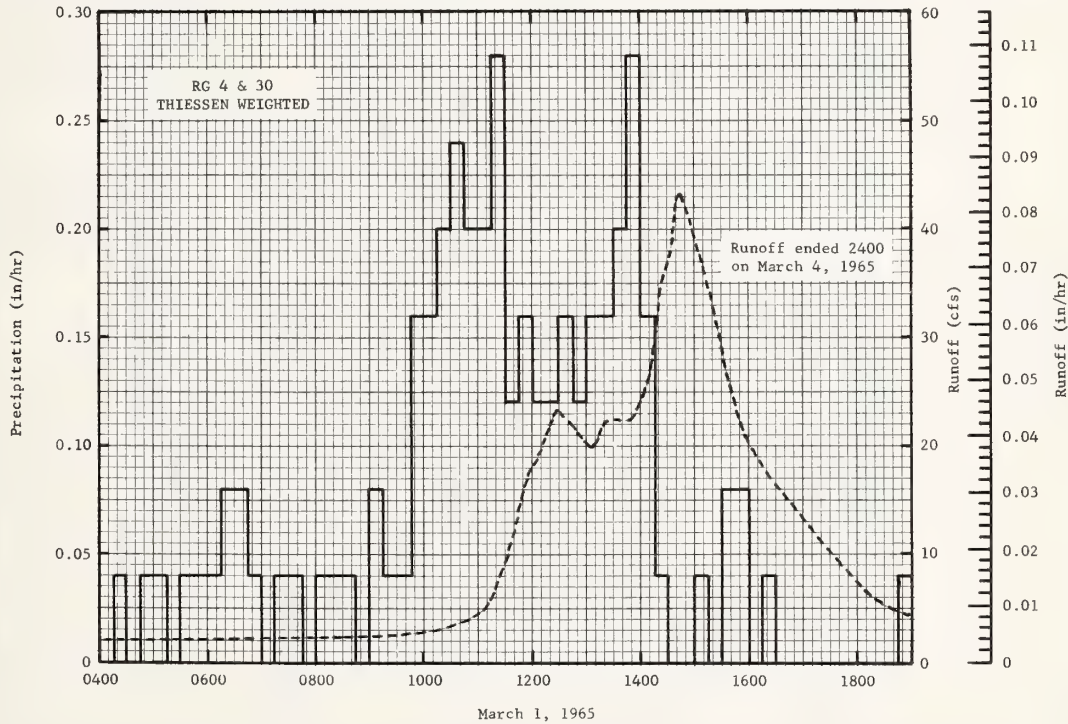
1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI		WATERSHED W-24 62.07			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of March 1-4, 1965 1/											
1-1	.00	.0000	3-1	2 26	AVG 2/		2-28	2400	1.91	.0000	
				0415	.00	.00	3-1	0828	2.40	.0354	
				0430	.04	.01		0946	2.67	.0417	
				0445	.00	.01		1026	3.27	.0456	
				0500	.04	.02		1106	4.98	.0509	
				0515	.04	.03		1130	9.19	.0564	
				0530	.00	.03		1158	17.99	.0687	
				0545	.04	.04		1208	19.50	.0747	
				0600	.04	.05		1228	23.46	.0886	
				0615	.04	.06		1308	19.98	.1166	
				0630	.03	.08		1320	22.43	.1248	
				0645	.03	.10		1344	22.43	.1422	
				0700	.04	.11		1408	22.73	.1609	
				0715	.00	.11		1424	32.40	.1767	
				0730	.04	.12		1434	38.35	.1866	
				0745	.04	.13		1444	43.34	.2016	
				0800	.00	.13		1510	36.60	.2353	
				0815	.04	.14		1556	20.95	.2780	
				0830	.04	.15		1658	13.53	.3125	
				0845	.04	.16		1828	11.34	.3400	
				0900	.00	.16		1956	2.96	.3520	
				0915	.03	.18		2400	.39	.3651	
				0930	.04	.19	3-2	2400	.10	.3765	
				0945	.04	.20	3-3	2400	.10	.3810	
				1000	.16	.24	3-4	2400	.00	.3832	
Continued on next page											

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.001937. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.7-4. 1/ ISOHYETAL MAP ON P. 62.11-5. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 2/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 4 AND 30. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-24 62.07			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of March 1-4, 1965 - Continued							
				1015	.16	.28				
				1030	.20	.33				
				1045	.24	.39				
				1100	.20	.44				
				1115	.20	.49				
				1130	.28	.56				
				1145	.12	.59				
				1200	.16	.63				
				1215	.12	.66				
				1230	.12	.69				
				1245	.16	.73				
				1300	.12	.76				
				1315	.16	.80				
				1330	.16	.84				
				1345	.20	.89				
				1400	.28	.96				
				1415	.16	1.00				
				1430	.04	1.01				
				1500	.00	1.01				
				1515	.04	1.02				
				1530	.00	1.02				
				1545	.08	1.04				
				1600	.08	1.06				
				1615	.00	1.06				
				1630	.04	1.07				
				1845	.00	1.07				
				1900	.04	1.08				

Watershed conditions: 3% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 7% in pasture and 15% idle, fair to good cover; 73% in woods, good cover; 2% in bare gullies.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR. MULTIPLY BY 0.001937.



OXFORD, MISSISSIPPI WATERSHED W-24



MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI					WATERSHED W-28 <sup>1</sup> / AREA—1,080 ACRES (1.69 SQ. MILES)				62.08	
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>2</sup> / <sub>Q</sub>	4.06	6.73	10.20	.94	2.81	1.98	2.25	1.87	4.42	.77	1.11	2.10	39.24		
		.28	1.22	2.57	.07	.01	.00	.02	.00	.01	.00	.00	.00	4.18		
STA AV <sup>3</sup> / <sub>P</sub> (57-65) Q		3.86	4.94	5.18	4.49	3.37	3.55	4.45	2.87	4.65	2.13	4.56	4.58	48.63		
		.41	.55	.53	.31	.12	.06	.10	.05	.15	.04	.15	.28	2.75		
MEAN P <sup>4</sup> / <sub>Q</sub>																
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.25	3-29	.20	3-29	.32	3-29	.61	3-29	.70	3-25	.94	3-24	1.17	3-24	2.17
MAXIMUMS FOR PERIOD OF RECORD																
1957 TO	9-9	.58	9-9	.42	9-9	.54	2-23	.70	1-31	.92	1-31	1.45	1-30	2.02	1-27	2.68
1965	1959		1959		1959		1962		1957		1957		1957		1957	
NOTES: Watershed conditions: About 12% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 29% in pasture and idle land, good cover April to October with fair cover remainder of year; 58% in woods, good cover; 1% in bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1967. 1/ About 61% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from rain gages 5, 6, and 7. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.																
1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI								WATERSHED W-28		62.08
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.14	1.26	.00	.00	.00	.00	.00	.61	.00	.00	.00				
2	.79	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.64	.00	.00	.01	.00	.00	.00	.00	.00				
4	.00	.00	.00	.00	.00	.00	1.57	.00	.07	.00	.00	.00				
5	.00	.00	.19	.00	.00	.00	.00	.00	.00	.00	.00	.00				
6	.00	.15	.05	.00	.00	1.09	.00	.02	.00	.75	.00	.00				
7	.00	.00	.00	.00	.00	.00	.03	.81	.00	.00	.02	.00				
8	.00	.88	.00	.00	.00	.00	.17	.02	.00	.00	.03	.00				
9	2.19	1.52	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00				
10	.07	.P3	.00	.00	.36	.00	.10	.00	1.21	.00	.00	.00				
11	.00	1.75	.13	.00	.17	.01	.00	.00	1.38	.00	.00	.69				
12	.00	.00	.35	.00	.00	.04	.00	.00	.00	.00	.16	.95				
13	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00				
14	.00	.00	.00	.00	.00	.59	.04	.00	.00	.00	.21	.15				
15	.21	.00	.00	.01	.13	.18	.00	.00	.00	.00	.00	.01				
16	.00	.00	.25	.00	1.30	.00	.00	.00	.00	.00	.00	.00				
17	.00	.00	.98	.00	.07	.00	.00	.00	.00	.00	.00	.00				
18	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00				
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
20	.00	.00	.00	.00	.51	.00	.00	.00	.08	.00	.00	.00				
21	.00	.05	.00	.00	.00	.00	.00	.00	.38	.00	.39	.00				
22	.50	.00	.00	.00	.00	.00	.27	.00	.34	.02	.00	.00				
23	.50	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00				
24	.00	1.31N	1.95	.00	.00	.00	.00	.01	.00	.00	.00	.30				
25	.00	.00	2.44	.00	.00	.00	.04	.00	.00	.00	.00	.00				
26	.00	.00	.03	.29	.00	.00	.00	.00	.00	.00	.30	.00				
27	.00	.00	.00	.00	.18	.00	.00	.50	.00	.00	.00	.00				
28	.00	.10	1.13	.00	.09	.00	.00	.39	.00	.00	.00	.00				
29	.00	-----	1.44	.00	.00	.00	.00	.00	.06	.00	.00	.00				
30	.00	-----	.00	.00	.00	.06	.00	.00	.29	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00				
TOTAL	4.06	6.73	10.20	.94	2.81	1.98	2.25	1.87	4.42	.77	1.11	2.10				
STA AV	3.86	4.94	5.18	4.49	3.37	3.55	4.45	2.87	4.65	2.13	4.56	4.58				
NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 5, 6 AND 7. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.																

1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI WATERSHED W-28 62.08						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.00	.00	5.93	.70	.00	.00	.00	.00	.00	.00	.00	.00
2	.50	.00	1.12	.43	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.61	1.37	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.49	.43	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.56	.15	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.56	.00	.00	.09	.00	.00	.00	.00	.00	.00
7	.00	.00	.46	.00	.00	.00	.00	.03	.00	.00	.00	.00
8	.00	.00	.36	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.38	6.46	.36	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.99	3.83	.33	.00	.00	.00	.00	.00	.09	.00	.00	.00
11	.49	30.05	.30	.00	.00	.00	.00	.00	.25	.00	.00	.00
12	.49	3.31	.97	.00	.00	.00	.00	.00	.00	.00	.00	.13
13	.39	1.51	.39	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.33	1.07	.30	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.36	.74	.27	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.28	.68	.56	.00	.60	.00	.00	.00	.00	.00	.00	.00
17	.46	.66	4.43	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.58	.64	.21	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.43	.56	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.39	.49	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
21	.33	.46	.10	.00	.60	.00	.00	.00	.00	.00	.00	.00
22	.47	.46	.22	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.60	.46	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.28	2.94	7.65	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.01	.32	41.71	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.07	.56	5.62	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.27	.74	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.24	2.21	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	-----	36.67	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	2.47	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	1.17	-----	.00	-----	.00	.00	-----	.00	-----	.00
MEAN	.41	1.99	3.77	.10	.02	.00	.03	.00	.01	.00	.00	.00
INCHES	.28	1.22	2.57	.07	.01	.00	.02	.00	.01	.00	.00	.00

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0220387. QUALITY OF RECORDS: FAIR, ESTIMATED TO BE WITHIN 15% OF ACTUAL.

1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI WATERSHED W-28 62.08						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of March 1-4, 1965 1/												
3-1	.00	.0000	3-1	3 00	AVG 2/		2-28	2400	.24	.0000		
				0400	.00	.00	3-1	0846	.43	.0027		
				0415	.04	.01		1004	.64	.0034		
				0430	.00	.01		1034	2.49	.0041		
				0445	.04	.02		1042	2.49	.0044		
				0530	.00	.02		1052	4.20	.0049		
				0545	.04	.03		1108	6.05	.0062		
				0600	.04	.04		1118	10.59	.0074		
				0615	.08	.06		1132	14.50	.0101		
				0630	.08	.08		1150	12.46	.0138		
				0645	.08	.10		1234	14.50	.0229		
				0700	.04	.11		1318	20.29	.0347		
				0715	.04	.12		1344	22.15	.0431		
				0730	.04	.13		1354	29.81	.0471		
				0745	.00	.13		1420	35.00	.0600		
				0800	.04	.14		1450	30.81	.0750		
				0815	.00	.14		1548	16.80	.0962		
				0830	.04	.15		1626	11.82	.1045		
				0845	.04	.16		1726	8.23	.1137		
				0900	.04	.17		1946	1.72	.1244		
				0915	.04	.18		2400	1.50	.1307		
				0930	.08	.20	3-2	2400	.73	.1552		
				0945	.20	.25	3-3	2400	3/ .49	.1687		
				1000	.20	.30						
				1015	.16	.34						

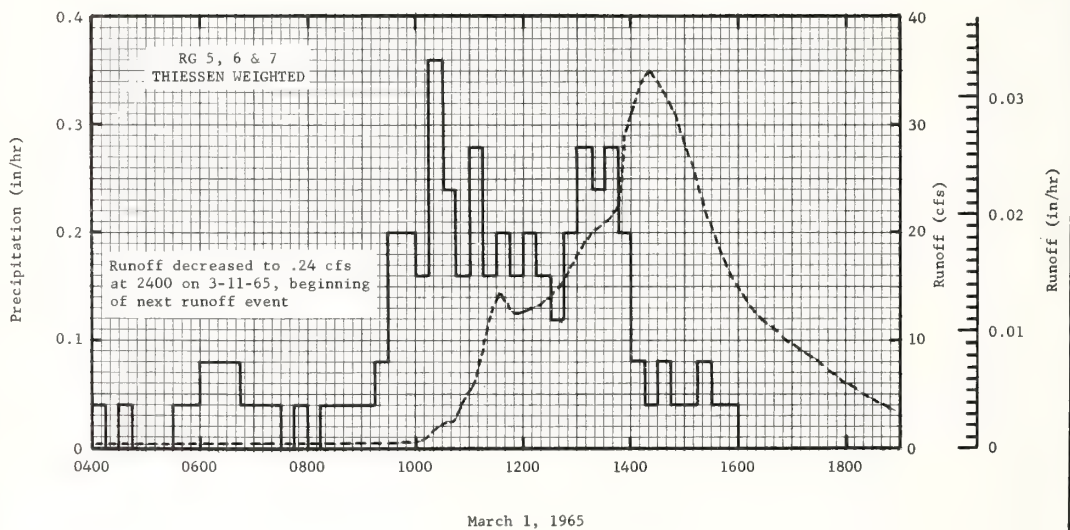
Continued on next page

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0009183. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.8-5. 1/ ISOHYETAL MAP ON P. 62.11-5. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 2/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 5, 6 AND 7. DAILY TOTALS FOR INDIVIDUAL GAGES LISTED ON P. 62.11-3. 3/ RUNOFF DECREASED TO .24 CFS AT 2400 ON 3-11-65, BEGINNING OF NEXT RUNOFF EVENT.

1 165			SELECTED RUNOFF EVENT				OXFORD, MISSISSIPPI				WATERSHED W-28		62-08	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
			<u>Event of March 1-4, 1965 - Continued</u>											
				1030	.36	.43								
				1045	.24	.49								
				1100	.16	.53								
				1115	.28	.60								
				1130	.16	.64								
				1145	.20	.69								
				1200	.16	.73								
				1215	.20	.78								
				1230	.16	.82								
				1245	.12	.85								
				1300	.20	.90								
				1315	.28	.97								
				1330	.24	1.03								
				1345	.28	1.10								
				1400	.20	1.15								
				1415	.08	1.17								
				1430	.04	1.18								
				1445	.06	1.20								
				1500	.04	1.21								
				1515	.04	1.22								
				1530	.08	1.24								
				1545	.04	1.25								
				1600	.04	1.26								
<u>Watershed conditions:</u> 12% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 10% in pasture and 19% idle, fair to good cover; 58% in woods, good cover; 1% in bare gullies.														

Watershed conditions: 12% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 10% in pasture and 19% idle, fair to good cover; 58% in woods, good cover; 1% in bare gullies.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0009183.



OXFORD, MISSISSIPPI WATERSHED W-28

MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI WATERSHED W-32 <sup>1/</sup> AREA—20,000 ACRES (31.3 SQ. MILES)								62.10
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sup>2/</sup> Q	4.48	7.10	9.91	1.33	3.15	1.40	.72	3.66	5.31	.98	1.13	2.12	41.29	
	1.81	3.99	7.07	.14	.08	.00	.00	.04	.05	.01	.00	.01	13.20	
STA AV <sup>3/</sup> (57-65) Q	3.99	5.02	5.25	4.82	3.98	3.40	4.20	3.36	4.97	2.00	4.58	4.80	50.37	
	1.27	1.80	1.94	1.24	.74	.18	.26	.24	.57	.10	.66	1.42	10.42	
MEAN 46 YR <sup>4/</sup>	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09	

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.33	3-29	.32	3-29	.61	3-29	1.26	3-29	1.46	3-28	2.42	3-24	3.33	3-24	6.13

## MAXIMUMS FOR PERIOD OF RECORD

19 57 to 19 65	2-23 1962	.57	2-23 1962	.56	2-23 1962	.83	12-3 1964	1.94	12-3 1964	2.45	12-3 1964	3.48	12-3 1964	3.72	3-24 1965	6.13
-------------------	--------------	-----	--------------	-----	--------------	-----	--------------	------	--------------	------	--------------	------	--------------	------	--------------	------

NOTES: Watershed conditions: About 29% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 39% in pasture and idle land, good cover April to October with fair cover remainder of year; 30% in woods, good cover; 2% bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1964. 1/ About 14% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from 10 rain gages. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.

1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI			WATERSHED W-32				62.10
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.14	.78	.00	.00	.00	.00	.00	.73	.00	.00	.00	
2	1.48	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
3	.00	.00	.00	.71	.00	.00	.00	.00	.00	.00	.00	.00	
4	.00	.00	.00	.00	.00	.00	.32	.00	.01	.00	.00	.00	
5	.00	.00	.17	.00	.00	.00	.05	.00	.00	.00	.00	.00	
6	.00	.13	.05	.01	.00	.26	.00	.50	.00	.95	.01	.00	
7	.00	.00	.00	.00	.00	.00	.01	1.16	.00	.00	.17	.00	
8	.00	1.00	.00	.00	.00	.00	.03	.01	.00	.00	.02	.00	
9	2.11	1.69	.00	.00	.00	.00	.02	.01	.00	.00	.00	.00	
10	.06	.85	.00	.00	.37	.04	.13	.00	1.02	.00	.00	.00	
11	.00	1.65	.10	.03	.31	.08	.00	.00	1.57	.00	.00	.57	
12	.00	.00	.41	.00	.00	.03	.00	.00	.00	.00	.28	1.04	
13	.00	.00	.00	.00	.00	.26	.00	.00	.00	.00	.00	.00	
14	.00	.00	.00	.00	.00	.65	.03	.00	.00	.00	.08	.14	
15	.15	.00	.00	.19	.04	.00	.00	.00	.00	.00	.00	.02	
16	.00	.00	.19	.00	.87	.00	.00	.00	.00	.00	.00	.00	
17	.00	.00	.97	.00	.04	.00	.00	.00	.00	.00	.00	.00	
18	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	
19	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	
20	.00	.00	.00	.00	1.23	.00	.00	.00	.02	.00	.00	.00	
21	.00	.06	.00	.00	.00	.00	.00	.00	.81	.00	.18	.00	
22	.43	.00	.00	.00	.00	.00	.06	.00	.26	.03	.00	.00	
23	.25	.00	.00	.00	.00	.05	.02	.03	.00	.00	.00	.00	
24	.00	1.40N	2.35	.00	.00	.00	.00	.20	.00	.00	.00	.35	
25	.00	.00	2.10	.01	.00	.00	.05	.00	.00	.00	.00	.00	
26	.00	.00	.04	.37	.00	.00	.00	.00	.00	.00	.39	.00	
27	.00	.00	.00	.01	.21	.00	.00	1.27	.00	.00	.00	.00	
28	.00	.18	1.39	.00	.07	.02	.00	.42	.00	.00	.00	.00	
29	.00	-----	1.36	.00	.00	.00	.00	.00	.05	.00	.00	.00	
30	.00	-----	.00	.00	.00	.01	.00	.00	.84	.00	.00	.00	
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00	
TOTAL	4.48	7.10	9.91	1.33	3.15	1.40	.72	3.66	5.31	.98	1.13	2.12	
STA AV	3.99	5.02	5.25	4.82	3.98	3.40	4.20	3.36	4.97	2.00	4.58	4.80	

NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIENSEN WEIGHTED FROM RAIN GAGES 3, 10-14, 20, 21, 24, AND 26. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.



1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI				WATERSHED W-32				62.10
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.04	.00	316.91	14.29	.00	.00	.00	.00	2.61	.08	.00	.00		
2	487.62	.00	51.82	9.00	.00	.00	.00	.00	.00	.00	.00	.00		
3	24.33	.00	14.28	86.74	.00	.00	.00	.00	.00	.00	.00	.00		
4	11.89	.00	8.40	7.49	.00	.00	.00	.00	.00	.00	.00	.00		
5	2.53	.00	13.10	.86	.00	.00	.00	.00	.00	.00	.00	.00		
6	1.16	.00	9.49	.29	.00	.00	.00	.00	.00	7.26	.00	.00		
7	.50	.00	1.55	.17	.00	.00	.00	8.23	.00	1.98	.00	.00		
8	.22	4.43	2.76	.14	.00	.00	.00	1.56	.00	.10	.00	.00		
9	842.39	806.97	1.67	.07	.00	.00	.00	.00	.00	.00	.00	.00		
10	115.68	330.79	.65	.00	.00	.00	.00	.00	1.57	.00	.00	.00		
11	15.19	1747.18	.56	.00	.00	.00	.00	.00	28.20	.00	.00	.00		
12	8.12	70.76	23.55	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.88	
13	3.52	13.13	3.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
14	1.45	6.47	.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
15	1.34	3.02	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
16	.79	1.84	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
17	.21	1.25	344.75	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
18	.18	.65	3.87	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
19	.15	.31	.90	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
20	.05	.24	.36	.00	62.62	.00	.00	.00	.00	.00	.00	.00	.00	
21	.00	.22	.19	.00	2.58	.00	.00	.00	4.81	.00	.00	.00	.00	
22	.10	.20	.07	.00	.00	.00	.00	.00	1.08	.00	.00	.00	.00	
23	.53	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
24	2.41	298.45	1029.25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
25	.27	16.97	1624.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
26	.08	31.94	264.25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
27	.00	14.18	53.06	.00	.00	.00	.00	14.39	.00	.00	.00	.00	.00	
28	.00	5.21	472.72	.00	.00	.00	.00	8.10	.00	.00	.00	.00	.00	
29	.00	-----	1619.24	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00	
30	.00	-----	59.61	.00	.00	.00	.00	.00	1.61	.00	.00	.00	.00	
31	.00	-----	23.33	-----	.00	-----	.00	.00	-----	.00	-----	.00	.00	
MEAN	49.05	119.80	191.75	3.97	2.10	.00	.00	1.04	1.33	.30	.00	.00	.25	
INCHES	1.81	3.99	7.07	.14	.08	.00	.00	.04	.05	.01	.00	.01	.01	

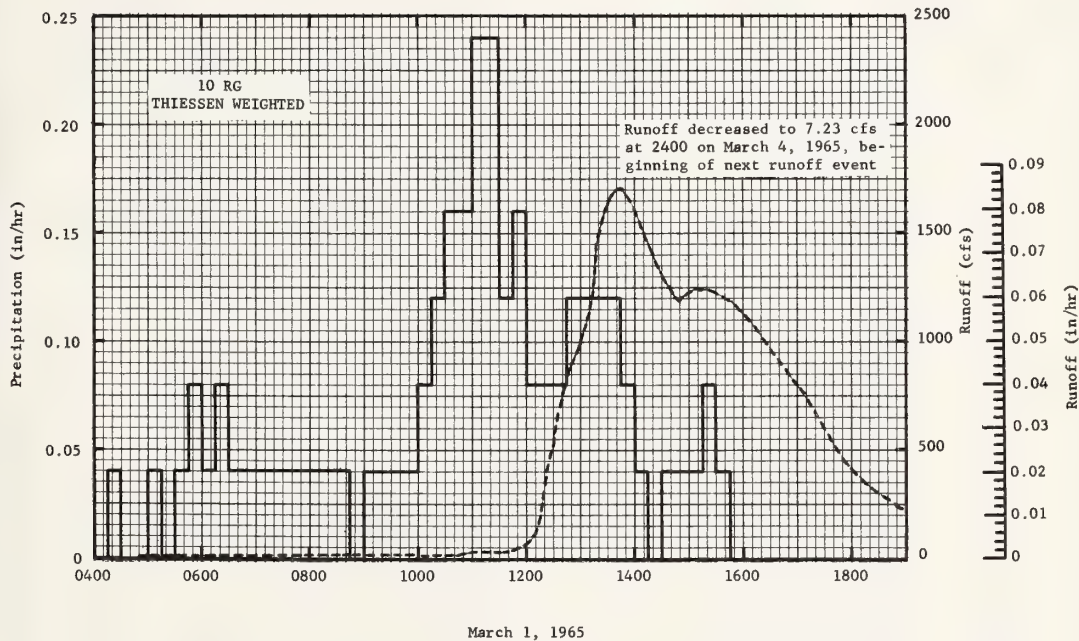
NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0011901. QUALITY OF RECORDS: GOOD, ESTIMATED TO BE WITHIN 10% OF ACTUAL.

1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI				WATERSHED W-32				62.10
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF								
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of March 1-4, 1965 1/														
3-1	.00	2/.0014	3-1	10 RG	AVG 3/		3-1	0450	6.63	.0000				
				0415	.00	.00		0732	9.00	.0011				
				0430	.04	.01		0900	10.76	.0018				
				0500	.00	.01		1042	17.26	.0030				
				0515	.04	.02		1056	27.77	.0033				
				0530	.00	.02		1140	38.42	.0045				
				0545	.04	.03		1158	68.04	.0053				
				0600	.08	.05		1208	105.57	.0060				
				0615	.04	.06		1222	403.36	.0089				
				0630	.08	.08		1234	655.36	.0142				
				0645	.04	.09		1248	877.26	.0230				
				0700	.04	.10		1300	990.95	.0323				
				0715	.04	.11		1314	1320.00	.0457				
				0730	.04	.12		1330	1640.00	.0652				
				0745	.04	.13		1344	1709.68	.0846				
				0800	.04	.14		1400	1600.00	.1065				
				0815	.04	.15		1428	1320.00	.1403				
				0830	.04	.16		1448	1189.59	.1610				
				0845	.04	.17		1506	1249.68	.1792				
				0900	.00	.17		1548	1189.59	.2215				
				0915	.04	.18		1626	990.95	.2557				
				0930	.04	.19		1710	741.95	.2872				
				0945	.04	.20		1756	431.52	.3095				
				1000	.04	.21		1836	287.26	.3214				
				1015	.08	.23		1900	239.52	.3267				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0000496. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.10-5. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0450 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 3, 10-14, 20, 21, 24 AND 26. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-32 62.10			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of March 1-4, 1965 - Continued							
<b>Watershed conditions:</b> 29% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 15% in pasture and 24% idle, fair to good cover; 30% in woods, good cover; 2% in bare gullies.				1030	.12	.26		1936	195.01	.3331
				1045	.16	.30		2002	207.25	.3374
				1100	.16	.34		2024	213.49	.3413
				1115	.24	.40		2040	216.64	.3441
				1130	.24	.46		2054	219.81	.3466
				1145	.12	.49		2150	210.36	.3566
				1200	.16	.53		2248	180.26	.3659
				1215	.08	.55		2400	151.26	.3758
				1230	.08	.57	3-2	0128	123.24	.3858
				1245	.08	.59		0352	89.42	.3984
				1300	.12	.62		0728	60.01	.4118
				1315	.12	.65		1158	32.55	.4221
				1330	.12	.68		2400	18.98	.4375
				1345	.12	.71	3-3	2400	9.58	.4545
				1400	.08	.73	3-4	2400	1/ 7.23	.4645
				1415	.04	.74				
				1430	.00	.74				
				1445	.04	.75				
				1500	.04	.76				
				1515	.04	.77				
				1530	.08	.79				
				1545	.04	.80				
				1600	.00	.80				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0000496. 1/ BEGINNING OF NEXT RUNOFF EVENT.



OXFORD, MISSISSIPPI WATERSHED W-32

MONTHLY PRECIPITATION AND RUNOFF (inches)							OXFORD, MISSISSIPPI AREA—75,000 ACRES (117.2 SQ. MILES)							WATERSHED W-34 <sup>1/</sup> 62.11	
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965	P <sup>2/</sup>	4.20	6.86	9.89	1.29	2.79	1.51	1.37	3.80	5.42	.90	1.40	2.05	41.48	
	Q <sup>3/</sup>	1.91	3.82	6.00	.53	.38	.33	.33	.45	.47	.35	.33	.38	15.28	
STA AV <sup>4/</sup> (57-65) Q	P	3.95	4.93	5.19	4.76	3.64	3.50	4.21	3.62	4.73	1.98	4.46	4.78	49.75	
	Q	1.48	1.90	2.08	1.45	.89	.50	.60	.53	.82	.39	.91	1.56	13.11	
MEAN P <sup>5/</sup> 46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.10	3-29	.10	3-29	.20	3-29	.58	3-29	1.04	3-28	1.72	3-28	1.97	3-24	4.77

MAXIMUMS FOR PERIOD OF RECORD																
1957 TO 1965	2-23 1962	.14	2-23 1962	.14	2-23 1962	.27	2-23 1962	.78	2-23 1962	1.35	12-3 1964	2.23	12-3 1964	2.72	3-24 1965	4.77

NOTES: Watershed conditions: About 24% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 35% in pasture and idle land, good cover April to October with fair cover remainder of year; 39% in woods, good cover; 1% in bare gullies; 1% urban. Percentages of total area in various land use categories are based on the latest survey completed in 1965. They differ from those previously reported. Changes occurred over a period of 5 years prior to 1965. 1/ About 18% of area, principally in upper reaches, above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from 32 rain gages. 3/ Monthly values of runoff include relatively insignificant flow through auxiliary station 34-A. 4/ Precipitation and runoff records began Jan. 1957. 5/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.

1965 DAILY PRECIPITATION (inches)							OXFORD, MISSISSIPPI							WATERSHED W-34		62.11
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.14	.88	.00	.00	.00	.00	.00	.81	.00	.00	.00				
2	1.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.77	.00	.00	.00	.00	.00	.00	.00	.00				
4	.00	.00	.01	.00	.00	.00	.78	.00	.03	.00	.00	.00				
5	.00	.00	.16	.00	.00	.00	.03	.00	.01	.00	.00	.00				
6	.00	.12	.06	.04	.00	.31	.00	.26	.00	.87	.00	.00				
7	.00	.00	.00	.00	.00	.00	.01	1.28	.00	.00	.19	.00				
8	.01	.79	.00	.00	.00	.00	.11	.08	.00	.00	.04	.00				
9	2.25	1.68	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00				
10	.07	.83	.00	.00	.42	.02	.10	.00	1.09	.00	.00	.00				
11	.00	1.74	.12	.03	.21	.03	.00	.00	1.53	.00	.00	.54				
12	.00	.00	.39	.00	.00	.06	.00	.00	.00	.00	.24	1.00				
13	.00	.00	.00	.00	.00	.22	.00	.00	.00	.00	.03	.00				
14	.00	.00	.00	.00	.00	.74	.16	.00	.00	.00	.35	.15				
15	.17	.00	.00	.09	.09	.01	.00	.00	.00	.00	.00	.01				
16	.00	.00	.22	.00	.86	.00	.00	.00	.00	.00	.00	.00				
17	.00	.00	.89	.00	.09	.00	.00	.01	.00	.00	.00	.00				
18	.00	.00	.00	.01	.00	.00	.00	.16	.00	.00	.00	.00				
19	.00	.00	.00	.00	.02	.00	.00	.00	.01	.00	.00	.00				
20	.00	.00	.00	.00	.89	.00	.00	.01	.07	.00	.00	.00				
21	.00	.06	.00	.00	.00	.00	.00	.00	.86	.00	.24	.00				
22	.41	.00	.00	.00	.00	.00	.10	.01	.27	.03	.00	.00				
23	.26	.00	.00	.00	.00	.03	.02	.04	.00	.00	.00	.00				
24	.00	1.36N	1.98	.00	.00	.02	.00	.34	.00	.00	.00	.35				
25	.00	.00	2.30	.00	.00	.00	.04	.00	.00	.00	.00	.00				
26	.00	.00	.05	.35	.00	.00	.00	.00	.00	.00	.31	.00				
27	.00	.00	.00	.00	.16	.00	.00	.95	.00	.00	.00	.00				
28	.00	.14	1.39	.00	.05	.02	.00	.66	.00	.00	.00	.00				
29	.00	-----	1.44	.00	.00	.00	.00	.00	.03	.00	.00	.00				
30	.00	-----	.00	.00	.00	.05	.00	.00	.71	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00				
TOTAL	4.20	6.86	9.89	1.29	2.79	1.51	1.37	3.80	5.42	.90	1.40	2.05				
STA AV	3.95	4.93	5.19	4.76	3.64	3.50	4.21	3.62	4.73	1.98	4.46	4.78				

NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 1-31, AND 33. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.



1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI						WATERSHED W-34		62.11
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	41.07	51.58	978.25	68.74	29.21	34.09	33.41	29.89	44.26	41.12	33.79	35.31		
2	806.04	50.71	350.38	49.42	29.57	33.08	33.08	30.26	30.97	38.47	33.79	35.31		
3	226.50	48.95	105.78	485.19	29.19	31.70	32.74	30.26	29.16	37.37	34.14	35.31		
4	71.74	50.68	76.35	203.13	28.80	31.36	64.21	30.26	29.52	37.94	34.49	36.15		
5	52.61	51.56	89.88	55.72	29.53	32.73	81.28	30.26	26.13	37.94	34.50	38.07		
6	48.17	53.33	101.93	45.79	30.99	33.44	31.33	30.99	29.53	54.10	34.50	38.57		
7	47.32	54.22	67.53	42.52	30.99	33.11	29.53	111.47	29.17	50.66	34.87	38.01		
8	47.32	60.91	56.13	41.75	30.26	33.08	30.26	69.98	28.44	34.91	34.88	38.01		
9	2153.16	1136.68	49.87	38.50	30.63	33.08	29.90	34.67	28.80	34.12	34.51	38.01		
10	1058.31	1961.36	46.45	34.89	39.02	32.40	27.68	31.70	36.78	34.44	34.52	38.01		
11	143.07	5197.96	47.31	34.53	37.40	31.72	26.34	29.90	331.91	34.09	34.52	39.00		
12	90.80	1079.85	193.24	32.08	33.13	32.73	26.34	28.80	65.79	33.41	35.74	134.50		
13	69.45	141.56	83.43	29.59	32.12	34.86	27.06	29.53	43.00	33.41	35.74	46.06		
14	59.75	87.81	57.12	29.23	32.10	52.44	38.34	30.26	36.99	33.41	41.30	35.26		
15	63.64	63.58	49.88	29.60	32.76	44.12	31.68	30.26	35.24	33.08	41.67	34.54		
16	63.59	54.30	82.52	29.60	49.12	34.81	28.80	29.53	34.44	32.74	34.89	35.39		
17	56.01	48.98	1039.05	29.23	42.49	33.76	29.53	29.16	34.09	31.70	34.52	34.38		
18	54.23	46.44	137.35	29.96	33.51	33.08	30.26	36.82	34.46	31.70	34.52	32.15		
19	52.46	42.57	66.46	29.23	31.78	33.08	30.63	32.18	35.58	32.41	34.89	32.49		
20	51.58	42.56	57.84	27.79	164.91	33.08	31.70	31.36	35.98	33.11	34.54	32.49		
21	51.58	43.24	55.10	27.44	64.17	33.41	32.07	30.63	94.43	33.79	34.19	32.82		
22	53.94	41.02	55.10	29.25	35.53	33.41	33.98	30.26	87.70	34.51	34.56	33.15		
23	103.01	39.15	54.22	29.60	32.80	33.08	31.72	30.63	41.34	35.23	34.56	32.81		
24	167.08	892.56	1985.30	27.79	31.76	33.08	31.36	58.38	36.58	36.07	34.56	34.73		
25	81.46	229.26	4731.08	27.79	30.32	33.41	31.70	38.95	35.23	36.07	34.56	35.75		
26	63.63	211.61	1692.95	30.30	29.95	33.41	32.74	32.41	35.21	35.23	34.57	34.17		
27	56.02	189.36	179.25	31.02	30.69	33.08	33.08	96.20	34.81	35.23	34.57	33.49		
28	56.92	76.01	402.47	29.22	31.76	33.08	32.74	269.73	34.81	34.51	34.57	33.49		
29	55.15	-----	5348.86	28.49	32.13	33.08	32.07	41.22	35.58	34.14	34.57	33.49		
30	50.70	-----	555.41	28.49	32.45	33.41	30.99	35.24	45.55	34.14	34.94	33.49		
31	49.82	-----	119.60	-----	33.78	-----	29.89	31.98	-----	33.79	-----	33.49		
MEAN	194.07	430.28	609.87	55.20	38.16	34.14	33.75	46.23	49.48	35.90	35.07	38.64		
INCHES	1.91	3.82	6.00	.53	.38	.33	.33	.45	.47	.35	.33	.38		

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.00031736. QUALITY OF RECORDS: GOOD, ESTIMATED TO BE WITHIN 10% OF ACTUAL. DAILY DISCHARGE VALUES INCLUDE RELATIVELY INSIGNIFICANT FLOW THROUGH AUXILIARY STATION 34-A.

1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI						WATERSHED W-34		62.11	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF								
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)					
Event of March 1-4, 1965 1/															
3-1	.00	2/.0064	3-1	12 RG	AVG 3/		3-1	0600	88.88	.0000					
				0415	.00	.00		0900	99.26	.0034					
				0430	.04	.01		1000	104.76	.0051					
				0445	.00	.01		1032	110.55	.0059					
				0500	.00	.01		1124	134.63	.0073					
				0515	.00	.01		1200	174.42	.0085					
				0530	.04	.02		1238	266.29	.0104					
				0545	.04	.03		1312	376.57	.0128					
				0600	.04	.04		1330	488.93	.0145					
				0615	.08	.06		1344	574.81	.0161					
				0630	.04	.07		1348	1373.02	.0170					
				0645	.08	.09		1358	1954.95	.0207					
				0700	.04	.10		1410	2154.88	.0261					
				0715	.00	.10		1430	2590.75	.0366					
				0730	.04	.11		1446	2986.66	.0464					
				0745	.04	.12		1500	3126.57	.0558					
				0800	.00	.12		1504	3166.53	.0576					
				0815	.04	.13		1550	3328.00	.0715					
				0830	.04	.14		1600	3362.61	.0799					
				0845	.00	.14		1616	3417.62	.1106					
				0900	.04	.15		1634	3471.19	.1245					
				0915	.04	.16		1654	3506.56	.1399					
				0930	.00	.16		1718	3470.15	.1583					
				0945	.04	.17		1758	3181.20	.1876					
				1000	.08	.19		1824	2856.58	.2049					

Continued on next page

Continued on next page

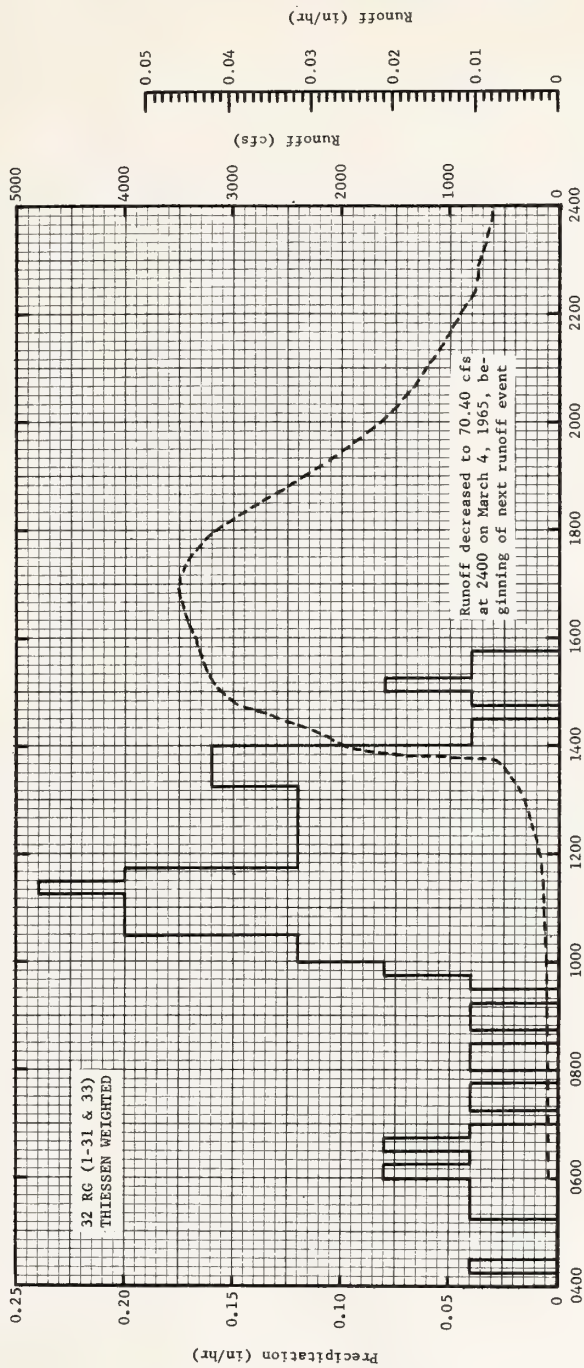
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.00001322. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.11-4. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0600 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 1-31 AND 33. DAILY TOTALS FOR INDIVIDUAL GAGES LISTED ON P. 62.11-3.



1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-34 62.11			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of March 1-4, 1965 - Continued							
				1015	.17	.22		1842	2586.16	.2157
				1030	.12	.25		1916	2157.35	.2335
				1045	.20	.30		1950	1756.55	.2462
				1100	.20	.35		2034	1379.50	.2634
				1115	.20	.40		2144	985.20	.2816
				1130	.24	.46		2200	904.10	.2850
				1145	.20	.51		2214	832.86	.2876
				1200	.12	.54		2238	753.82	.2918
				1215	.12	.57		2304	720.41	.2961
				1230	.12	.60		2328	660.67	.2997
				1245	.12	.63		2348	602.06	.3025
				1300	.12	.66		2400	612.43	.3041
				1315	.12	.69	3-2	0032	623.02	.3085
				1330	.16	.73		0112	633.48	.3140
				1345	.16	.77		0200	622.28	.3206
				1400	.16	.81		0346	561.53	.3345
				1415	.04	.82		0400	554.55	.3362
				1430	.04	.83		0530	510.12	.3467
				1445	.00	.83		0730	424.91	.3591
				1500	.04	.84		0900	373.29	.3670
				1515	.08	.86		0930	361.96	.3695
				1530	.04	.87		1158	306.11	.3803
				1545	.04	.88		1600	242.54	.3950
				1600	.00	.88		1758	211.71	.4009
								2400	149.45	.4153
							3-3	0602	117.94	.4260
								0800	111.55	.4289
								1200	98.70	.4345
								1600	93.20	.4396
								2400	82.31	.4489
							3-4	2400	1/ 70.40	.4731
			TOTALS	EACH	RAIN	GAGE				
			RG 1	2.29	RG 17	2.22				
			RG 2	2.18	RG 18	2.44				
			RG 3	2.15	RG 19	2.23				
			RG 4	2.72	RG 20	2.34				
			RG 5	2.52	RG 21	2.29				
			RG 6	2.67	RG 22	2.23				
			RG 7	2.65	RG 23	.59				
			RG 8	2.46	RG 24	2.29				
			RG 9	2.40	RG 25	2.56				
			RG 10	2.25	RG 26	2.30				
			RG 11	2.39	RG 27	1.99				
			RG 12	2.04	RG 28	2.15				
			RG 13	2.65	RG 29	2.42				
			RG 14	2.62	RG 30	2.82				
			RG 15	.98	RG 31	2.30				
			RG 16	2.21	RG 33	3.76				

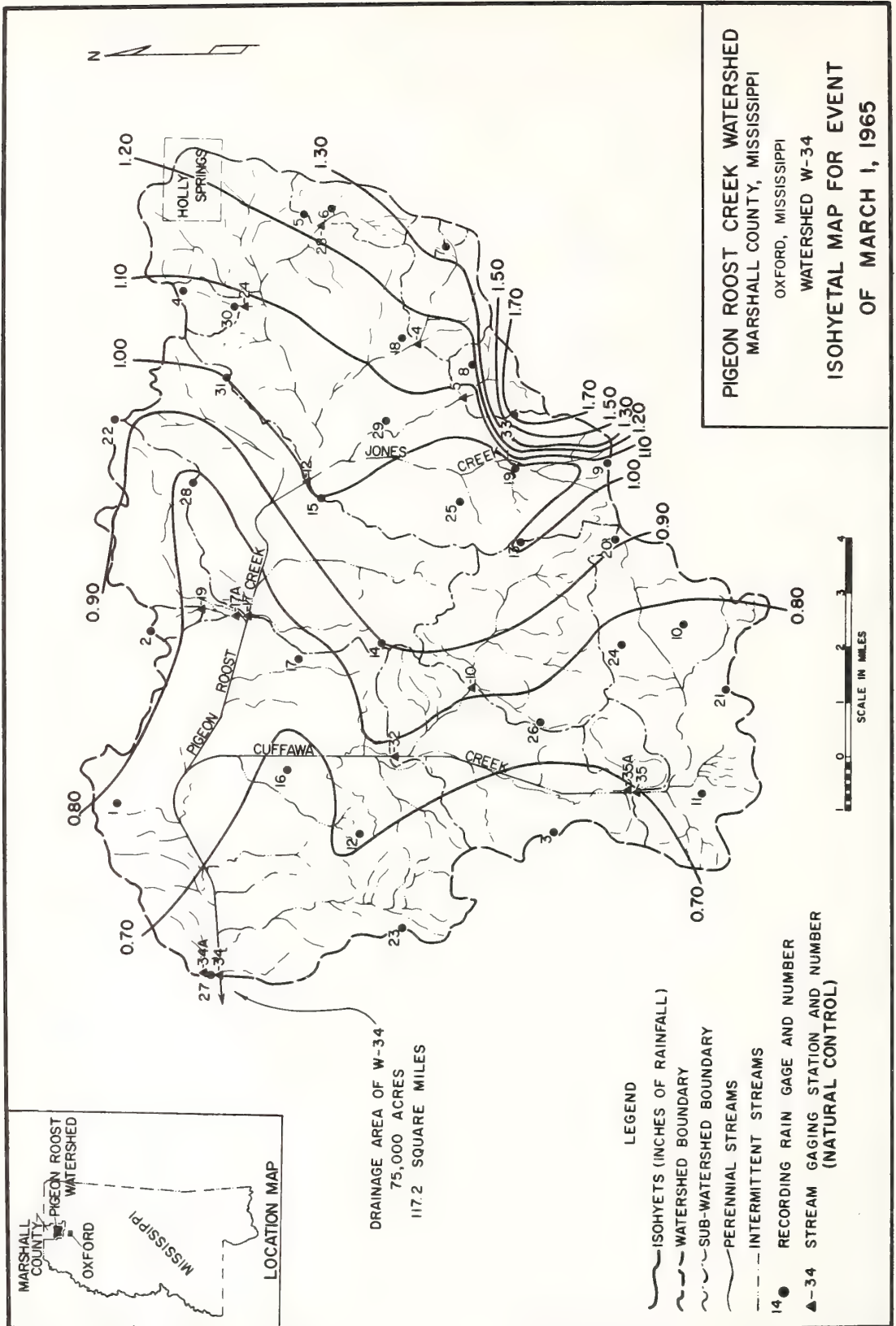
Watershed conditions: 24% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 16% in pasture and 19% idle, fair to good cover; 39% woods, good cover; 1% bare gullies; 1% urban.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.00001322. 1/ BEGINNING OF NEXT RUNOFF EVENT.



March 1, 1965

OXFORD, MISSISSIPPI WATERSHED W-34



MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI						WATERSHED W-35 <sup>1/</sup>		62.12
						AREA—7,550 ACRES (11.8 SQ. MILES)								
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	P <sup>2/</sup>	4.64	7.06	10.01	1.41	3.44	1.42	.75	3.68	4.61	.95	1.04	1.98	40.99
	Q	1.96	4.08	6.70	.10	.13	.00	.00	.03	.03	.00	.00	.01	13.04
STA AV	P <sup>3/</sup>	3.92	4.98	5.27	4.81	4.15	3.38	4.22	3.20	5.15	1.95	4.46	4.73	50.22
(57-65)	Q	1.53	1.94	2.03	1.31	.81	.15	.25	.21	.55	.04	.62	1.40	10.84
MEAN	P <sup>4/</sup>													
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS														
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL											
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.32	3-29	.30	3-29	.56	3-29	1.11	3-29	1.32	3-28	2.40	3-24	3.06
														5.69
MAXIMUMS FOR PERIOD OF RECORD														
19 57 TO	5-26	.88	5-26	.84	5-26	1.48	2-23	2.19	2-23	2.43	12-3	3.09	1-30	3.46
19 65	1963		1963		1963		1962		1962		1964		1957	1965
NOTES: Watershed conditions: About 27% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 47% in pasture and idle land, good cover April to October with fair cover remainder of year; 24% in woods, good cover; 2% in bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1964. 1/ About 12% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from 5 rain gages. 3/ Precipitation and runoff records began Jan. 1957. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.														
1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI						WATERSHED W-35		62.12
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.00	.14	.77	.00	.00	.00	.00	.00	.45	.00	.00	.00		
2	1.76	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
3	.00	.00	.00	.65	.00	.00	.00	.00	.00	.00	.00	.00		
4	.00	.00	.01	.00	.00	.00	.00	.38	.00	.00	.00	.00		
5	.00	.00	.15	.00	.00	.00	.00	.07	.00	.00	.00	.00		
6	.00	.12	.05	.00	.00	.26	.00	.64	.00	.92	.01	.00		
7	.00	.00	.00	.00	.00	.00	.01	1.25	.00	.00	.19	.00		
8	.00	1.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
9	2.03	1.80	.00	.00	.00	.00	.00	.02	.01	.00	.00	.00		
10	.05	.83	.00	.00	.46	.07	.10	.00	.96	.00	.00	.00		
11	.00	1.49	.08	.07	.51	.08	.00	.00	1.44	.00	.00	.60		
12	.00	.00	.41	.00	.00	.00	.00	.00	.00	.00	.23	.94		
13	.00	.00	.00	.00	.00	.24	.00	.00	.00	.00	.00	.00		
14	.00	.00	.00	.00	.00	.72	.00	.00	.00	.00	.05	.12		
15	.14	.00	.00	.34	.05	.00	.00	.00	.00	.00	.00	.01		
16	.00	.00	.18	.00	.64	.00	.00	.00	.00	.00	.00	.00		
17	.00	.00	.92	.00	.01	.00	.00	.00	.00	.00	.00	.00		
18	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00		
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
20	.00	.01	.00	.00	1.44	.00	.00	.00	.03	.00	.00	.00		
21	.00	.05	.00	.00	.00	.00	.00	.00	.62	.00	.13	.00		
22	.42	.00	.00	.00	.00	.00	.03	.00	.26	.03	.00	.00		
23	.24	.00	.00	.00	.00	.05	.04	.04	.00	.00	.00	.00		
24	.00	1.37 <sup>N</sup>	2.48	.00	.00	.00	.00	.10	.00	.00	.00	.31		
25	.00	.00	2.02	.03	.00	.00	.10	.00	.00	.00	.00	.00		
26	.00	.00	.05	.31	.00	.00	.00	.00	.00	.00	.43	.00		
27	.00	.00	.00	.01	.24	.00	.00	.00	.00	.00	.00	.00		
28	.00	.18	1.51	.00	.09	.00	.00	.24	.00	.00	.00	.00		
29	.00	-----	1.38	.00	.00	.00	.00	.00	.05	.00	.00	.00		
30	.00	-----	.00	.00	.00	.00	.00	.00	.80	.00	.00	.00		
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00		
TOTAL	4.64	7.06	10.01	1.41	3.44	1.42	.75	3.68	4.61	.95	1.04	1.98		
STA AV	3.92	4.98	5.27	4.81	4.15	3.38	4.22	3.20	5.15	1.95	4.46	4.73		
NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 10, 11, 20, 21, AND 24. STATION AVERAGE IS FOR 9-YR (1957-65) RECORD PERIOD.														



1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI				WATERSHED W-35				62.12
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.00	.00	139.23	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	265.60	.00	23.14	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	6.75	.00	3.01	26.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.29	.00	.16	4.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.43	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.75	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	5.49	.00	.38	.00	.00	.00	.00
8	.00	10.59	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00
9	302.68	336.74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	44.68	147.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	2.40	579.96	.00	.00	.00	.00	.00	.00	8.48	.00	.00	.00	.00	.00
12	.00	47.38	13.64	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.20	.00
13	.00	4.01	.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00
14	.00	.00	.00	.00	.00	1.16	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	1.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.60	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	140.49	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	40.41	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.38	.00	.00	.00	.85	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	129.41	406.53	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	12.84	507.26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	19.49	80.68	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	7.89	5.42	.00	.00	.00	.00	4.20	.00	.00	.00	.00	.00	.00
28	.00	.00	201.31	.00	.00	.00	.00	.58	.00	.00	.00	.00	.00	.00
29	.00	-----	579.21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	22.76	.00	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00
31	.00	-----	2.51	.00	.00	-----	.00	.00	-----	.00	-----	.00	.00	.00
MEAN	20.08	46.27	68.60	1.09	1.33	.04	.00	.33	.31	.04	.00	.07		
INCHES	1.96	4.08	6.70	.10	.13	.00	.00	.03	.03	.00	.00	.01		

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0031526. QUALITY OF RECORDS: FAIR, ESTIMATED TO BE WITHIN 15% OF ACTUAL.

1965			SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI			WATERSHED W-35			62.12		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of March 1-4, 1965 1/														
3-1	.00	.0000	3-1	5 RG	AVG 2/		3-1	0522	.00	.0000				
				0415	.00	.00		0800	13.51	.0024				
				0430	.04	.01		1046	30.75	.0104				
				0500	.00	.01		1134	57.90	.0151				
				0515	.04	.02		1208	162.40	.0233				
				0530	.00	.02		1230	409.92	.0371				
				0545	.08	.04		1244	495.87	.0509				
				0600	.04	.05		1258	575.55	.0674				
				0615	.08	.07		1314	604.62	.0880				
				0630	.08	.09		1324	575.55	.1010				
				0645	.04	.10		1408	402.69	.1481				
				0700	.04	.11		1500	424.77	.1952				
				0715	.04	.12		1542	421.00	.2341				
				0730	.04	.13		1706	295.71	.3000				
				0745	.04	.14		1758	247.70	.3309				
				0800	.04	.15		1900	235.96	.3637				
				0815	.04	.16		1940	213.49	.3834				
				0830	.00	.16		2142	68.60	.4211				
				0845	.04	.17		2400	50.06	.4390				
				0900	.04	.18		3-2 0332	36.37	.4590				
				0915	.04	.19		1228	20.26	.4923				
				0930	.04	.20		2400	5.70	.5119				
				0945	.04	.21		3-3 2400	.31	.5214				
				1000	.08	.23		3-4 2400	.00	.5219				
				1015	.08	.25								

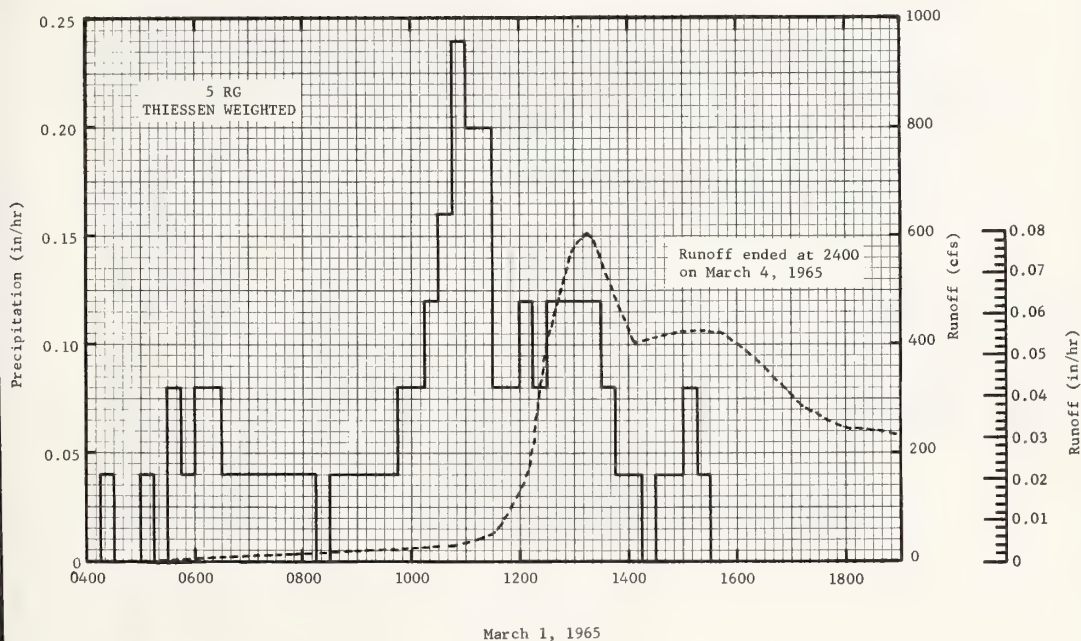
Continued on next page

Continued on next page

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0001314. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.12-5. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 10, 11, 20, 21 AND 24. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3.

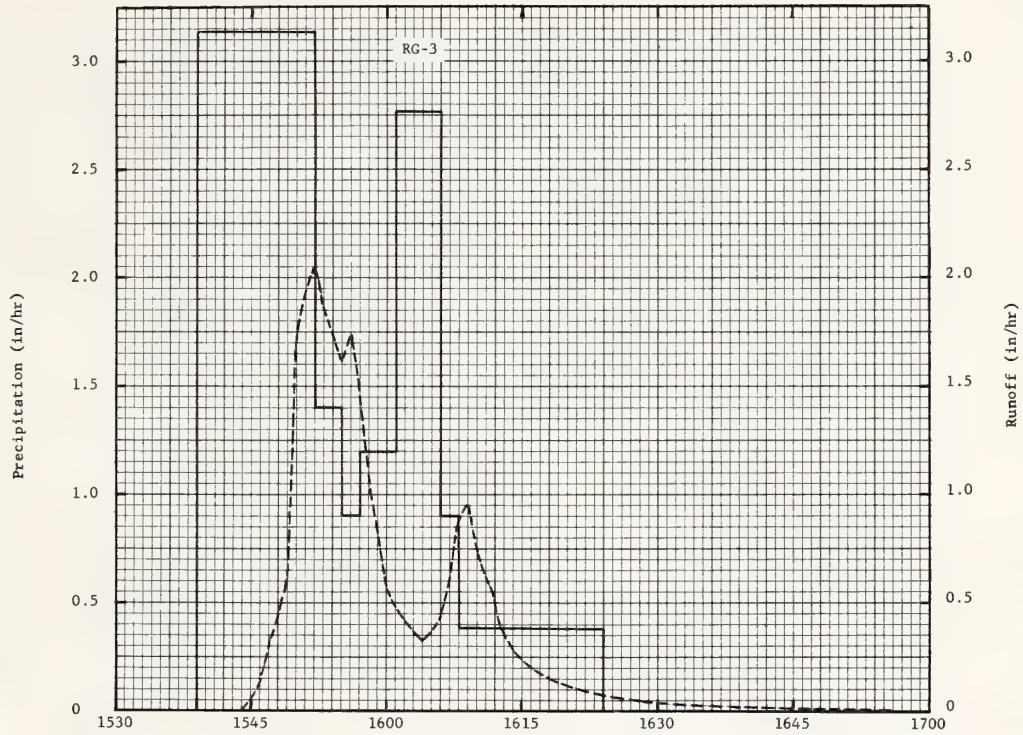
1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-35 62.12			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Watershed conditions: 27% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 17% in pasture and 30% idle, fair to good cover; 24% woods, good cover; 2% bare gullies.			Event of March 1-4, 1965 - Continued							
				1030	.12	.28				
				1045	.16	.32				
				1100	.24	.38				
				1115	.20	.43				
				1130	.20	.48				
				1145	.08	.50				
				1200	.08	.52				
				1215	.12	.55				
				1230	.08	.57				
				1245	.12	.60				
				1300	.12	.63				
				1315	.12	.66				
				1330	.12	.69				
				1345	.08	.71				
				1400	.04	.72				
				1415	.04	.73				
				1430	.00	.73				
				1445	.04	.74				
				1500	.04	.75				
				1515	.08	.77				
				1530	.04	.78				
				1545	.00	.78				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0001314.



OXFORD, MISSISSIPPI WATERSHED W-35

MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI WATERSHED WC-1 AREA—3.88 ACRES										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	4.98 1.69	6.94 2.46	11.89 2/7.12	2.10 .45	2.52 .00	2.19 .18	3.31 .79	3.15 .73	5.07 .48	.89 .10	2.27 .44	2.23 .60	47.54 15.04			
STA AV 3/ (58-65) P Q	3.66 1.44	4.71 1.84	5.90 2.74	4.64 1.18	3.92 .99	3.68 .89	4.24 .86	4.32 1.12	3.70 .78	1.98 .39	3.88 .94	4.81 1.84	49.44 15.01			
MEAN P 4/ 46 YR	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS 5/																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965													3-28	6/3.67	3-24	6/5.39
MAXIMUMS FOR PERIOD OF RECORD 7/																
1958 TO 1965	6-10 1961	7.34	6-10 1961	1.94	6-10 1961	1.98	1-22 1962	2.45	1-22 1962	2.71	12-3 1962	2.93	3-28 1965	6/3.67	3-24 1965	6/5.39
NOTES: Watershed conditions: 100% of area cultivated in corn, low plant population, low crop yields, poor winter cover provided by crop residue. Row direction ranges from approximate contour to up and down hill. 1/ Precipitation data from rain gage 3. 2/ Stage recorder failed to function properly during major storms Mar. 28, 29. Runoff estimated for these two storms. 3/ Precipitation and runoff records began Jan. 1958. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss. 5/ Maximum discharge and volumes are known to have occurred on Mar. 28 and 29 when the stage recorder was inoperative. 6/ Estimated. 7/ Maximum discharge and volumes listed were, most likely, exceeded on Mar. 28-29, 1965.																
1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI WATERSHED WC-1										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of July 8, 1965																
	RG	3	7-8	RG	3		7-8									
6-13	.06	.000		1539	.00	.00		1544	.000	.000						
6-14	1.42	.177		1552	3.14	.68		1546	.120	.002						
6-15	.03	.000		1555	1.40	.75		1547	.317	.006						
6-23	.02	.000		1557	.90	.78		1549	.613	.021						
7-3	.45	.003		1601	1.20	.86		1550	1.738	.041						
7-4	.89	.178		1606	2.76	1.09		1552	2.045	.104						
				1608	.90	1.12		1553	1.858	.136						
				1624	.38	1.22		1554	1.738	.166						
								1555	1.61C	.194						
								1556	1.738	.222						
								1557	1.447	.249						
								1558	1.074	.270						
								1559	.833	.286						
								1600	.572	.297						
								1602	.419	.314						
								1604	.317	.326						
								1606	.440	.339						
								1607	.613	.348						
								1608	.902	.360						
								1609	.951	.376						
								1610	.721	.390						
								1612	.493	.410						
								1613	.350	.417						
								1616	.197	.430						
								1622	.097	.445						
								1632	.033	.456						
								1642	.005	.459						
								1648	.003	.460						
								1656	.000	.460						
Watershed conditions: 100% of area in corn, 5 ft. high, 5,000 plants per acre. Estimated 50% ground and canopy cover provided by vegetation. Last tillage operation 7-8-65. Row direction ranged from approximate contour to up and down hill.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3.912. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.16-4.																

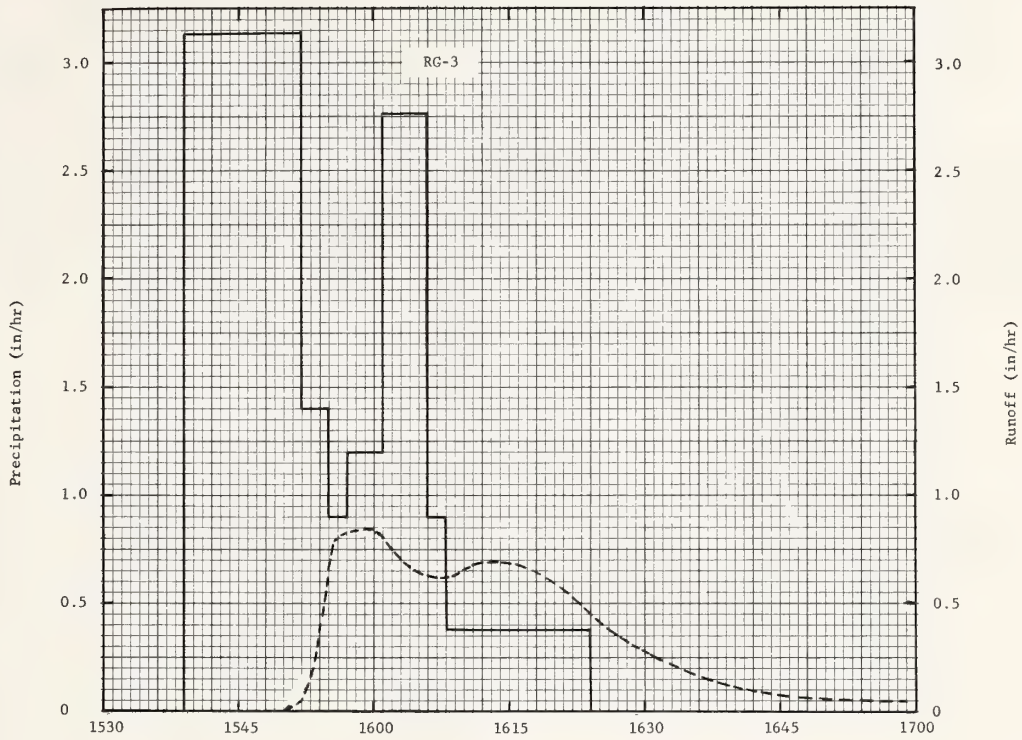


July 8, 1965

OXFORD, MISSISSIPPI WATERSHED WC-1



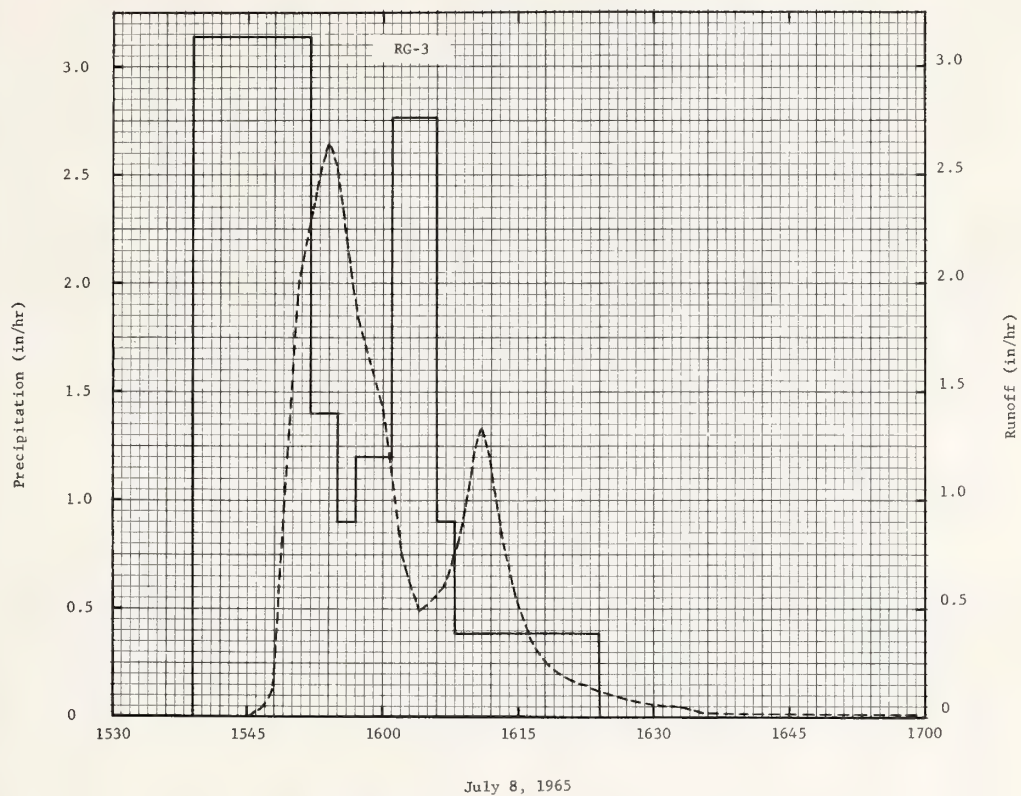
MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI WATERSHED WC-2 AREA—1.45 ACRES										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sub>1</sub> /	4.98	6.94	11.89	2.10	2.52	2.19	3.31	3.15	5.07	.89	2.27	2.23	47.54		
	Q	2.88	4.54	8.87	.79	.00	.08	.57	.47	.00	.00	.31	.63	19.14		
STA AV <sup>2</sup> / <sub>P</sub>		3.66	4.71	5.90	4.64	3.92	3.68	4.24	4.32	3.70	1.98	3.88	4.81	49.44		
	(58-65) Q	1.71	2.18	3.02	1.14	.77	.66	.59	.64	.47	.19	.69	1.93	13.99		
MEAN	P <sub>3</sub> /															
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-28	4.93	3-28	1.57	3-28	2.61	3-28	2.82	3-28	3.81	3-28	4.37	3-28	4.37	3-24	7.35
MAXIMUMS FOR PERIOD OF RECORD																
19 58 TO	3-28	4.93	3-28	1.57	3-28	2.61	3-28	2.82	3-28	3.81	12-3	4.40	12-3	4.50	3-24	7.35
19 65	1965		1965		1965		1965		1965		1964		1964		1965	
NOTES: Watershed conditions: 100% of area cultivated in corn, high plant population, high crop yields, fair cover provided by crop residue. Terraced with rows on 0.2 to 0.4% slope. 1/ Precipitation data from rain gage 3. 2/ Precipitation records began Jan. 1958, runoff records began July 1958. 3/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.																
1965 SELECTED RUNOFF EVENTS						OXFORD, MISSISSIPPI WATERSHED WC-2										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of July 8, 1965																
	RG	3	7-8	RG	3		7-8									
6-13	.06	.000		1539	.00	.00		1550	.000	.000						
6-14	1.42	.080		1552	3.14	.68		1552	.053	.000						
6-15	.03	.000		1555	1.40	.75		1554	.338	.007						
6-23	.02	.000		1557	.90	.78		1556	.816	.026						
7-3	.45	.000		1601	1.20	.86		1600	.844	.081						
7-4	.89	.000		1606	2.76	1.09		1602	.759	.108						
				1608	.90	1.12		1604	.660	.132						
				1624	.38	1.22		1609	.636	.186						
								1611	.685	.208						
								1616	.693	.265						
								1621	.573	.318						
								1626	.386	.358						
								1632	.243	.390						
								1637	.149	.406						
								1646	.076	.423						
								1654	.051	.431						
								1706	.032	.440						
								1716	.026	.445						
								1833	.014	.470						
								1916	.000	.475						
Watershed conditions: 100% of area in corn, 7 ft. high, 10,000 plants per acre. Estimated 85% ground and canopy cover provided by vegetation. Last tillage operation 7-8-65. Terraced with rows on 0.2 to 0.4% slope.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 1.462. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.16-4.																



July 8, 1965

OXFORD, MISSISSIPPI WATERSHED WC-2

MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI WATERSHED WC-3 AREA—1.61 ACRES										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1</sup> / <sub>Q</sub>	4.98	6.94	11.89	2.10	2.52	2.19	3.31	3.15	5.07	.89	2.27	2.23	47.54			
	2.61	4.36	8.96	.78	.00	.30	1.22	1.12	1.08	.11	.61	.73	21.88			
STA AV <sup>2</sup> / <sub>P</sub>	3.66	4.71	5.90	4.64	3.92	3.68	4.24	4.32	3.70	1.98	3.88	4.81	49.44			
(58-65) Q	1.44	2.10	3.11	1.02	.79	.95	.98	1.30	.89	.41	1.01	1.97	15.97			
MEAN P <sup>3</sup> / <sub>Q</sub>																
46 YR	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-28	6.48	3-28	1.92	3-28	3.14	3-28	3.23	3-28	4.25	3-28	4.71	3-28	4.71	3-24	7.55
MAXIMUMS FOR PERIOD OF RECORD																
19 58 TO 19 65	3-28 1965	6.48	3-28 1965	1.92	3-28 1965	3.14	3-28 1965	3.23	3-28 1965	4.25	3-28 1965	4.71	3-28 1965	4.71	3-24 1965	7.55
NOTES: Watershed conditions: 100% of area cultivated in corn, low plant population. low crop yields, poor winter cover provided by crop residue. Row direction ranges from approximate contour to up and down hill. 1/ Precipitation data from rain gage 3. 2/ Precipitation records began Jan. 1958, runoff records began July 1958. 3/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss.																
1965 SELECTED RUNOFF EVENT						OXFORD, MISSISSIPPI WATERSHED WC-3										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
				Event of July 8, 1965												
	RG	3	7-8	RG	3		7-8									
6-13	.06	.000		1539	.00	.00		1545	.000	.000						
6-14	1.42	.298		1552	3.14	.68		1547	.049	.000						
6-15	.03	.000		1555	1.40	.75		1551	2.069	.071						
6-23	.02	.000		1557	.90	.78		1554	2.643	.189						
7-3	.45	.000		1601	1.20	.86		1557	1.892	.302						
7-4	.89	.346		1606	2.76	1.09		1600	1.424	.385						
				1608	.90	1.12		1602	.768	.422						
				1624	.38	1.22		1603	.610	.433						
								1604	.490	.442						
								1607	.614	.470						
								1611	1.335	.535						
								1613	.848	.571						
								1616	.397	.602						
								1619	.217	.618						
								1627	.076	.637						
								1631	.053	.641						
								1633	.048	.643						
								1635	.018	.644						
								1640	.010	.645						
								1712	.007	.650						
								1750	.000	.653						
Watershed conditions: 100% of area in corn, 5 ft. high. 5,000 plants per acre. Estimated 60 percent ground and canopy cover provided by vegetation. Last tillage operation 7-8-65. Row direction ranged from approximate contour to up and down hill.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 1.623. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.16-4.																



OXFORD, MISSISSIPPI WATERSHED WC-3



MONTHLY PRECIPITATION AND RUNOFF (inches)							OXFORD, MISSISSIPPI AREA=3,200 ACRES (5.00 SQ. MILES)							WATERSHED W-17A <sup>1/</sup> 62.17		
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>2/</sup>	4.03	6.22	9.92	1.39	2.19	1.44	2.19	3.64	5.51	.97	1.80	2.02	41.32		
	Q	.97	2.60	4.55	.11	.00	.00	.00	.08	.07	.00	.00	.02	8.40		
STA AV <sup>3/</sup> (58-65)	P	3.51	4.55	5.35	4.71	3.08	3.04	4.40	4.17	4.15	1.82	3.57	4.72	47.07		
	Q	.78	1.32	1.50	.84	.21	.08	.18	.19	.48	.07	.09	.82	6.56		
MEAN	P <sup>4/</sup>															
46 YR		5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.22	3-29	.21	3-29	.40	3-29	.91	3-29	1.22	3-28	1.88	3-28	1.96	3-23	4.03
MAXIMUMS FOR PERIOD OF RECORD <sup>5/</sup>																
19 61 TO 19 65	2-23 1962	.42	2-23 1962	.42	2-23 1962	.84	2-23 1962	2.20	2-23 1962	3.18	2-23 1962	3.33	2-23 1962	3.34	2-23 1962	4.15
NOTES: Watershed conditions: About 15% of area in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 22% in pasture and idle land, good cover April to October with fair cover remainder of year; 62% in woods, good cover; 1% in bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1965. Changes occurred over a period of 5 years prior to 1965. 1/ About 25% of drainage area above small desilting and retention dams. 2/ Monthly precipitation Thiessen weighted from rain gages 2, 17, 22, and 28. 3/ Precipitation and runoff records began Jan. 1957. Runoff for 1957 was estimated, therefore was not included in the station averages. 4/ Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss. 5/ Maximum discharges and volumes were not computed prior to 1961; poor records 1958-60.																
1965 DAILY PRECIPITATION (inches)							OXFORD, MISSISSIPPI WATERSHED W-17A 62.17									
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.00	.12	.82	.00	.00	.00	.00	.00	1.05	.00	.00	.00				
2	.73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.90	.00	.00	.00	.00	.00	.00	.00	.00				
4	.00	.00	.01	.00	.00	.00	1.13	.00	.01	.00	.00	.00				
5	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00				
6	.00	.10	.06	.10	.00	.21	.00	.52	.00	.94	.01	.00				
7	.00	.00	.00	.00	.00	.00	.00	1.42	.00	.00	.29	.00				
8	.01	.57	.00	.00	.00	.00	.18	.21	.00	.00	.06	.00				
9	2.43	1.40	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00				
10	.08	.70	.00	.02	.27	.00	.10	.00	1.10	.00	.00	.00				
11	.00	1.92	.14	.06	.25	.00	.00	.00	1.47	.00	.00	.46				
12	.00	.00	.37	.00	.00	.04	.00	.00	.00	.00	.19	1.07				
13	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00	.00				
14	.00	.00	.00	.00	.00	.81	.46	.00	.00	.00	.86	.14				
15	.18	.00	.00	.01	.06	.01	.00	.00	.00	.00	.00	.01				
16	.00	.00	.18	.00	.86	.00	.00	.00	.00	.00	.00	.00				
17	.00	.00	.83	.00	.12	.00	.00	.00	.00	.00	.00	.00				
18	.00	.00	.00	.01	.00	.00	.00	.17	.00	.00	.00	.00				
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
20	.00	.00	.00	.00	.49	.00	.00	.00	.03	.00	.00	.00				
21	.00	.05	.00	.00	.00	.00	.00	.00	.96	.00	.16	.00				
22	.39	.00	.00	.00	.00	.00	.13	.00	.27	.03	.00	.00				
23	.21	.00	.01	.00	.00	.03	.17	.06	.00	.00	.00	.00				
24	.00	1.26N	1.81	.00	.00	.00	.00	.55	.00	.00	.00	.34				
25	.00	.00	2.35	.00	.00	.00	.00	.00	.00	.00	.00	.00				
26	.00	.00	.05	.29	.00	.00	.00	.00	.00	.00	.23	.00				
27	.00	.00	.00	.00	.13	.00	.00	.53	.00	.00	.00	.00				
28	.00	.10	1.72	.00	.01	.05	.00	.18	.00	.00	.00	.00				
29	.00	-----	1.45	.00	.00	.00	.00	.00	.00	.00	.00	.00				
30	.00	-----	.00	.00	.00	.13	.00	.00	.62	.00	.00	.00				
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00				
TOTAL	4.03	6.22	9.92	1.39	2.19	1.44	2.19	3.64	5.51	.97	1.80	2.02				
STA AV	3.51	4.55	5.35	4.71	3.08	3.04	4.40	4.17	4.15	1.82	3.57	4.72				
NOTES FOR DAILY AIR TEMPERATURES IN THE VICINITY. SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIENNES WEIGHTED FROM RAIN GAGES 2, 17, 22, AND 28. STATION AVERAGE IS FOR 8-YR (1958-65) RECORD PERIOD.																

1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI						WATERSHED W-17A		62.17
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1	.00	.09	32.31	.03	.00	.00	.00	.00	.02	.00	.00	.00		
2	3.63	.09	6.11	.00	.00	.00	.00	.00	.00	.00	.00	.00		
3	1.04	.09	1.09	13.85	.00	.00	.00	.00	.00	.00	.00	.00		
4	.10	.09	.71	.28	.00	.00	.00	.00	.00	.00	.00	.00		
5	.10	.10	.80	.00	.00	.00	.00	.00	.00	.00	.00	.00		
6	.09	.12	.69	.03	.00	.00	.00	.00	.00	.06	.00	.00		
7	.09	.12	.35	.03	.00	.00	.00	10.38	.00	.00	.00	.00		
8	.05	.12	.29	.00	.00	.00	.00	.01	.00	.00	.00	.00		
9	96.65	28.98	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00		
10	19.78	35.49	.17	.00	.00	.00	.00	.00	.00	.00	.00	.00		
11	3.15	232.75	.12	.00	.00	.00	.00	.00	8.27	.00	.00	.00		
12	1.06	11.39	1.32	.00	.00	.00	.00	.00	.00	.00	.00	.00		2.51
13	.58	1.63	.17	.00	.00	.00	.00	.00	.00	.00	.00	.00		.05
14	.41	1.02	.17	.00	.00	.00	.00	.00	.00	.00	.01	.00		.00
15	.27	.53	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
16	.20	.27	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
17	.16	.17	23.62	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
18	.22	.12	.59	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
19	.20	.11	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
20	.10	.10	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
21	.10	.09	.06	.00	.00	.00	.00	.00	.64	.00	.00	.00		.00
22	.30	.08	.07	.00	.00	.00	.00	.00	.03	.00	.00	.00		.00
23	.51	.10	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
24	.37	20.85	27.03	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
25	.37	5.37	220.67	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
26	.35	5.21	24.07	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
27	.15	3.04	4.95	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
28	.11	1.49	12.50	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
29	.10	-----	245.12	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
30	.09	-----	7.03	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
31	.09	-----	.18	-----	.00	-----	.00	.00	-----	.00	-----	.00		.00
MEAN	4.20	12.48	19.71	.47	.00	.00	.00	.33	.30	.00	.00	.08		.02
INCHES	.97	2.60	4.55	.11	.00	.00	.00	.08	.07	.00	.00	.00		.02

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0074380. QUALITY OF RECORDS: POOR, ESTIMATED TO BE WITHIN 20% OF ACTUAL.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-17A 62.17				
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
3-1	.00	2/.0051	3-1	Event of March 1-4, 1965 1/			3-1	0934	1.72	.0000	
				0515	.00	.00		1046	2.30	.0008	
				0530	.04	.01		1128	5.87	.0017	
				0545	.00	.01		1140	8.24	.0021	
				0600	.04	.02		1158	26.38	.0037	
				0615	.08	.04		1218	46.93	.0075	
				0630	.04	.05		1234	62.00	.0120	
				0645	.08	.07		1254	68.53	.0187	
				0700	.00	.07		1300	65.27	.0208	
				0715	.04	.08		1312	74.16	.0251	
				0730	.04	.09		1346	83.80	.0390	
				0745	.00	.09		1416	83.80	.0520	
				0800	.04	.10		1500	93.33	.0721	
				0815	.00	.10		1546	104.61	.0956	
				0830	.00	.10		1630	86.20	.1173	
				0845	.00	.10		1647	172.26	.1753	
				0900	.04	.11		1800	60.90	.1723	
				0915	.00	.11		1928	45.94	.1766	
				0930	.04	.12		2100	28.20	.2142	
				0945	.00	.12		2400	17.08	.2352	
				1000	.04	.13		3-2	0600	7.00	.2576
				1015	.16	.17			2400	1.26	.2807
				1030	.12	.20		3-3	2400	.91	.2888
				1045	.16	.24			2400	4/.51	.2941
				1100	.32	.32		Continued on next page			

Continued on next page

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0003099. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.5-5. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0934 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 2, 17, 22 AND 28. DAILY TOTALS FOR INDIVIDUAL RAIN GAGES LISTED ON P. 62.11-3. 4/ BEGINNING OF NEXT RUNOFF EVENT.



MONTHLY PRECIPITATION AND RUNOFF (inches)						OXFORD, MISSISSIPPI WATERSHED W-35A <sup>1/</sup> AREA—1,090 ACRES (1.70 SQ. MILES) 62.18							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	4.48	6.97	9.62	1.31	3.24	1.38	.86	3.39	5.28	.94	1.12	2.02	40.61
<sup>2/</sup> Q	2.23	4.06	6.48	.36	.21	.00	.00	.02	.13	.01	.00	.03	13.53
<sup>3/</sup> STA AV—P	3.45	4.73	5.53	4.49	3.63	3.00	4.40	3.26	4.61	1.74	3.86	4.72	47.42
(58-65) Q	1.24	1.85	2.41	1.25	.66	.16	.29	.25	.47	.06	.39	1.39	10.42
MEAN 46 YR <sup>4/</sup> P <sub>4</sub>	5.82	5.25	6.03	5.09	4.49	3.85	4.31	3.20	3.53	2.85	4.62	5.05	54.09

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-29	.35	3-29	.31	3-29	.51	3-24	1.08	3-24	1.21	3-28	1.80	3-24	2.96	3-24	5.12
MAXIMUMS FOR PERIOD OF RECORD <u>5</u> /																
19 61 TO 19 65	2-23 1962	.59	2-23 1962	.58	2-23 1962	1.11	2-23 1962	1.76	12-3 1964	2.04	12-3 1964	2.92	12-2 1964	3.15	3-24 1965	5.12

NOTES: Watershed conditions: About 19% in cultivation (cotton and corn), fair cover November to March, poor cover April and May improving to good by mid-July; 58% in pasture and idle land, good cover April to October with fair cover remainder of year; 22% in woods, good cover; 1% in bare gullies. Percentages of total area in various land use categories are based on the latest survey completed in 1964. <sup>1/</sup> About 9% of drainage area above small desilting and retention dams. <sup>2/</sup> Monthly precipitation Thiessen weighted from 4 rain gages. <sup>3/</sup> Precipitation and runoff records began Jan. 1957. Runoff for 1957 was estimated, therefore was not included in the station averages. <sup>4/</sup> Mean P based on 46-yr (1920-65) U. S. Weather Bureau record period at Holly Springs 2N, Miss. <sup>5/</sup> Maximum discharges and volumes were not computed prior to 1961; poor records 1957-60.

1965 DAILY PRECIPITATION (inches)						OXFORD, MISSISSIPPI WATERSHED W-35A 62.18							
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.14	.74	.00	.00	.00	.00	.00	.73	.00	.00	.00	.00
2	1.57	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.69	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.01	.00	.00	.00	.46	.00	.00	.00	.00	.00	.00
5	.00	.00	.17	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00
6	.00	.13	.04	.00	.00	.27	.00	.72	.00	.92	.01	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.97	.00	.00	.17	.00	.00
8	.00	1.04	.00	.00	.00	.00	.01	.00	.00	.00	.03	.00	.00
9	2.03	1.59	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00
10	.05	.86	.00	.00	.27	.08	.14	.00	1.02	.00	.00	.00	.00
11	.00	1.56	.09	.02	.36	.09	.00	.00	1.61	.00	.00	.54	.00
12	.00	.00	.41	.00	.00	.00	.00	.00	.00	.00	.29	1.02	.00
13	.00	.00	.00	.00	.00	.24	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.66	.01	.00	.00	.00	.04	.12	.00
15	.14	.00	.00	.26	.05	.00	.00	.00	.00	.00	.00	.01	.00
16	.00	.00	.19	.00	.87	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	1.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	1.36	.00	.00	.00	.01	.00	.00	.00	.00
21	.00	.06	.00	.00	.00	.00	.00	.00	.68	.00	.18	.00	.00
22	.44	.00	.00	.00	.00	.00	.01	.00	.31	.02	.00	.00	.00
23	.25	.00	.00	.00	.00	.04	.05	.03	.00	.00	.00	.00	.00
24	.00	1.40N	2.26	.00	.00	.00	.00	.25	.00	.00	.00	.33	.00
25	.00	.00	1.94	.02	.00	.00	.09	.00	.00	.00	.00	.00	.00
26	.00	.00	.04	.31	.00	.00	.00	.00	.00	.00	.40	.00	.00
27	.00	.00	.00	.01	.23	.00	.00	1.07	.00	.00	.00	.00	.00
28	.00	.19	1.40	.00	.07	.00	.00	.35	.00	.00	.00	.00	.00
29	.00	-----	1.33	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.87	.00	.00	.00	.00
31	.00	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.00	.00
TOTAL	4.48	6.97	9.62	1.31	3.24	1.38	.86	3.39	5.28	.94	1.12	2.02	
STA AV	3.45	4.73	5.53	4.49	3.63	3.00	4.40	3.26	4.61	1.74	3.86	4.72	

NOTES: FOR DAILY AIR TEMPERATURES IN THE VICINITY, SEE TABLE FOR WATERSHED W-4A, P. 62.1-1. DAILY PRECIPITATION VALUES THIESSEN WEIGHTED FROM RAIN GAGES 3, 11, 24, AND 26. STATION AVERAGE IS FOR 8-YR (1958-65) RECORD PERIOD.



1965 MEAN DAILY DISCHARGE (cfs)						OXFORD, MISSISSIPPI				WATERSHED W-35A 62.18			
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	.00	.01	19.12	1.25	.00	.00	.00	.00	.00	.00	.00	.00	
2	34.08	.00	3.60	1.14	.00	.00	.00	.00	.00	.00	.00	.00	
3	2.36	.00	1.85	10.65	.00	.00	.00	.00	.00	.00	.00	.00	
4	.81	.00	1.38	2.36	.00	.00	.00	.00	.00	.00	.00	.00	
5	.81	.00	1.89	.93	.00	.00	.00	.00	.00	.00	.00	.00	
6	.91	.00	2.12	.00	.00	.00	.00	.00	.00	.64	.00	.00	
7	.46	.00	1.14	.00	.00	.00	.00	.56	.00	.02	.00	.00	
8	.00	3.51	.91	.00	.00	.00	.00	.00	.00	.00	.00	.00	
9	41.85	42.31	.71	.00	.00	.00	.00	.00	.00	.00	.00	.00	
10	7.69	15.97	.26	.00	.00	.00	.00	.00	.15	.00	.00	.00	
11	.94	74.71	.08	.00	.00	.00	.00	.00	5.70	.00	.00	.00	
12	1.14	5.26	4.22	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.16
13	1.02	1.99	1.26	.00	.00	.00	.00	.00	.00	.00	.00	.00	
14	1.02	1.25	.71	.00	.00	.00	.00	.00	.00	.00	.00	.00	
15	.91	1.02	.26	.15	.00	.00	.00	.00	.00	.00	.00	.00	
16	.71	.71	.10	.00	1.14	.00	.00	.00	.00	.00	.00	.00	
17	.43	.52	21.40	.00	.00	.00	.00	.00	.00	.00	.00	.00	
18	.17	.36	1.16	.00	.00	.00	.00	.00	.00	.00	.00	.00	
19	.00	.10	.53	.00	.00	.00	.00	.00	.00	.00	.00	.00	
20	.00	.00	.17	.00	8.41	.00	.00	.00	.00	.00	.00	.00	
21	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	
22	.96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
23	2.86	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
24	1.89	23.86	57.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	
25	.81	4.79	73.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	
26	.35	5.51	9.87	.00	.00	.00	.00	.00	.00	.00	.00	.00	
27	.00	2.48	2.26	.00	.00	.00	.00	.22	.00	.00	.00	.00	
28	.00	1.61	25.43	.00	.00	.00	.00	.00	.00	.00	.00	.00	
29	.00	-----	60.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	
30	.00	-----	4.08	.00	.00	.00	.00	.00	.14	.00	.00	.00	
31	.00	-----	1.73	-----	.00	-----	.00	.00	-----	.00	-----	.00	
MEAN	3.29	6.64	9.58	.55	.31	.00	.00	.02	.20	.02	.00	.04	
INCHES	2.23	4.06	6.48	.36	.21	.00	.00	.02	.13	.01	.00	.03	

NOTES: TO CONVERT DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY 0.0218365. QUALITY OF RECORDS: FAIR, ESTIMATED TO BE WITHIN 15% OF ACTUAL.

1965			SELECTED RUNOFF EVENT				OXFORD, MISSISSIPPI				WATERSHED W-35A 62.18			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
3-1	.00	2/.0206	3-1	Event of March 1-4, 1965 1/			3-1	0648	3.15	.0000				
				4 RG	AVG 3/				0758	3.43	.0035			
				0500	.00	.00			0950	7.61	.0129			
				0515	.04	.01			1054	10.81	.0218			
				0530	.04	.02			1140	15.13	.0309			
				0545	.04	.03								
				0600	.08	.05			1216	37.60	.0453			
				0615	.04	.06			1244	62.72	.0666			
				0630	.08	.08			1306	72.08	.0891			
				0645	.04	.09			1330	77.00	.1162			
				0700	.08	.11		1412	65.00	.1614				
				0715	.04	.12		1430	67.32	.1795				
				0730	.04	.13		1524	56.12	.2300				
				0745	.04	.14		1630	42.12	.2792				
				0800	.04	.15		1728	30.88	.3113				
				0815	.04	.16		1902	18.10	.3462				
				0830	.00	.16		2056	11.32	.3716				
				0845	.04	.17		2400	6.81	.3969				
				0900	.00	.17		3-2	1200	2.87	.4497			
				0915	.04	.18		2400	1.85	.4756				
0930	.04	.19	3-3	2400	1.85	.5160								
0945	.04	.20	3-4	2400	4/.91	.5462								
1000	.04	.21												
1015	.12	.24												
1030	.08	.26												
1045	.16	.30												

Continued on next page

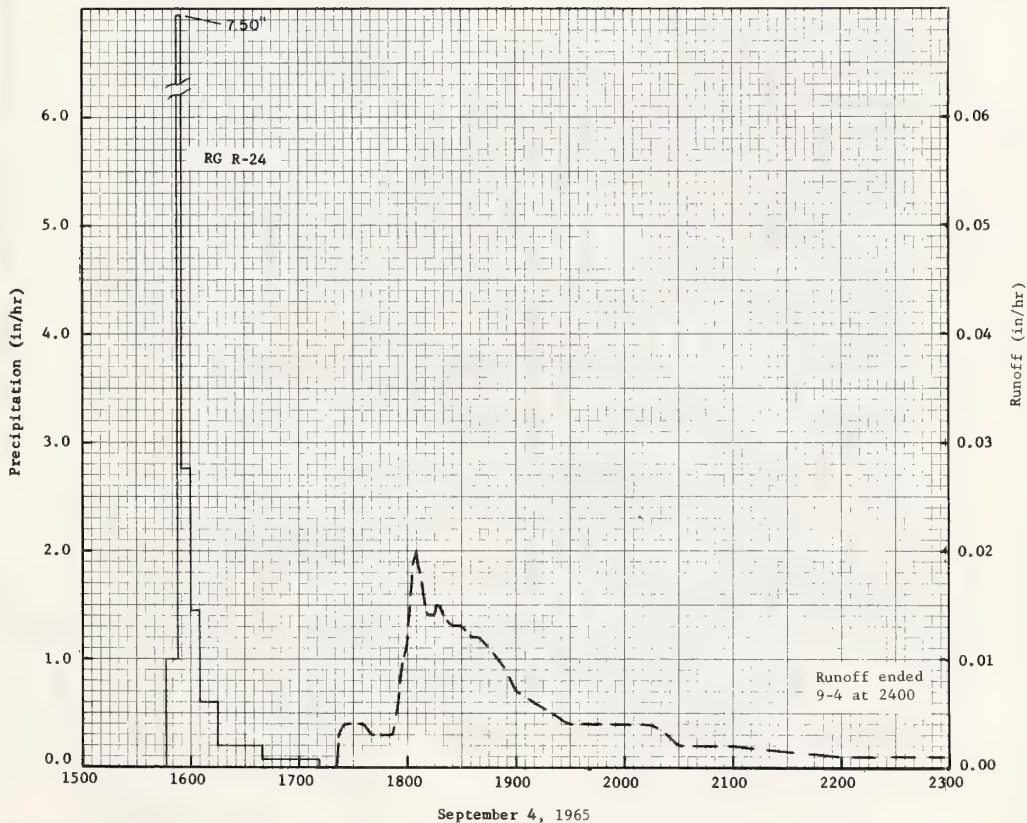
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY 0.0009099. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 62.12-5. 1/ ISOHYETAL MAP ON P. 62.11-5. 2/ RUNOFF PRIOR TO 0648 ON 3-1-65. FOR 30-DAY ANTECEDENT P AND Q, SEE TABLES ON THIS AND PREVIOUS PAGE. 3/ THIESSEN WEIGHTED STORM RAINFALL, RAIN GAGES 3, 11, 24 AND 26. DAILY TOTALS FOR INDIVIDUAL GAGES LISTED ON P. 62.11-3. 4/ BEGINNING OF NEXT RUNOFF EVENT.

1965 SELECTED RUNOFF EVENT			OXFORD, MISSISSIPPI				WATERSHED W-35A 62.18			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of March 1-4, 1965 - Continued							
				1100	.16	.34				
				1115	.20	.39				
				1130	.20	.44				
				1145	.16	.48				
				1200	.16	.52				
				1215	.08	.54				
				1230	.04	.55				
				1245	.12	.58				
				1300	.12	.61				
				1315	.08	.63				
				1330	.08	.65				
				1345	.08	.67				
				1400	.08	.69				
				1415	.04	.70				
				1430	.04	.71				
				1445	.00	.71				
				1500	.04	.72				
				1515	.08	.74				
				1530	.08	.76				
				1545	.00	.76				
Watershed conditions: 19% of area in cultivation, mostly row crop, poor to fair cover provided by residue from 1964 crop; 48% in pasture and 10% idle, fair to good cover; 22% woods, good cover; 1% bare gullies.										

MONTHLY PRECIPITATION AND RUNOFF (inches)						TOMBSTONE, ARIZONA		WATERSHED 63.001		63.01						
						AREA 36,900 ACRES (57.66 SQ. MILES)										
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1	.76	.11	.24	.01	.07	.18	3.63	1.74	1.68	.01	.26	3.23	11.92			
Q	.00	.00	.00	.00	.00	.00	T	T	.03	.00	.00	.00	.03			
STA AVG P 2	.56	.32	.43	.14	.01	.27	3.05	2.65	1.51	.71	.59	.86	11.10			
Q	.00	.00	.00	.00	.00	.00	.07	.01	.17	.00	.00	.00	.25			
MEAN P 3	.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02			
68 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-4	.02	9-4	.01	9-4	.02	9-4	.02	9-4	.03	9-4	.03	9-4	.03	9-4	.03
MAXIMUMS FOR PERIOD OF RECORD																
1964 TO 1965	7-22	.13	7-22	.08	9-9	.13	9-9	.16	9-9	.19	9-9	.19	9-8	.23	9-8	.31
	1964		1964		1964		1964		1964		1964		1964		1964	
Notes: For watershed conditions see information below and vegetative cover map, page 63.1-4. 1/ Monthly precipitation is arithmetic average of 81 rain gages on watershed. 2/ Precipitation records began January, 1954; runoff records began April, 1964. Station average for precipitation based on period 1958-65 and runoff station average based on 2 years, 1964-65. 3/ Mean P based on 68-yr. (1897-1964) U.S. Weather Bureau record period at Tombstone, Ariz.																
1965 -SELECTED RUNOFF EVENT						TOMBSTONE, ARIZONA		WATERSHED 63.001		63.01						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of September 4, 1965 4/																
8-8	RG R-24 .30	.0000	9-4	RG	R-24		9-4									
8-13	1.34	.0030		1547	0.00	0.00		1620	.000	.0000						
8-15	.33	.0000		1553	1.00	0.10		1630	.000	.0000						
8-16	.50	.0000		1555	7.50	0.35		1700	.000	.0000						
				1600	2.76	0.58		1721	.000	.0000						
8-30	.30	.0000		1605	1.44	0.70		1722	.003	.0000						
9-2	.12	.0000		1615	0.60	0.80		1725	.004	.0002						
9-3	.16	.0000		1639	0.20	0.88		1728	.004	.0004						
9-4	5/ .04	.0000		1712	0.07	0.92		1730	.004	.0006						
								1735	.004	.0009						
8-8	RG R-29 .29	.0000	9-4	RG	R-29			1740	.003	.0012						
8-9	.03	.0000		1515	0.00	0.00		1745	.003	.0015						
8-13	.40	.0030		1521	0.20	0.02		1750	.003	.0017						
8-16	.45	.0000		1550	0.00	0.02		1752	.003	.0018						
				1559	0.80	0.14		1755	.006	.0020						
8-17	.02	.0000		1602	3.60	0.32		1757	.009	.0023						
8-18	.15	.0000		1606	4.95	0.65		1759	.012	.0026						
8-22	.16	.0000		1609	3.00	0.80		1801	.014	.0030						
8-30	.55	.0000		1614	2.88	1.04		1803	.018	.0036						
9-2	.07	.0000		1617	2.40	1.16		1805	.020	.0042						
9-3	.47	.0000		1623	1.00	1.26		1807	.018	.0048						
9-4	6/ .03	.0000		1630	0.51	1.32		1809	.015	.0054						
				1650	0.18	1.38		1812	.014	.0061						
				1709	0.06	1.40		1814	.014	.0066						
				1759	0.02	1.42		1815	.015	.0068						
Watershed conditions: Sixty-five percent of area in desert shrubs (whitethorn, creosotebush, and tarbush), with 23 percent cover and 2 percent grass cover. Thirty-five percent is grassland, with approximately 20 percent grass cover (crown spread) and 5 percent shrub cover. Subwatersheds 63.002, 63.003, 63.004, 63.006, 63.008, 63.011, and 63.015 lie within the boundaries of Watershed 63.001.																
Continued on next page																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 37,207. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES 1960-61, USDA MISC. PUB. 994, P. 63.1-2. FOR GEOLOGIC AND VEGETATION MAPS SEE THIS VOLUME, P. 63.1-4 AND P.63.1-5. 4/ ISOHYETAL MAP ON P. 63.1-6. 5/ RAIN ENDED AT 1347. 6/ RAIN ENDED AT 1350.																

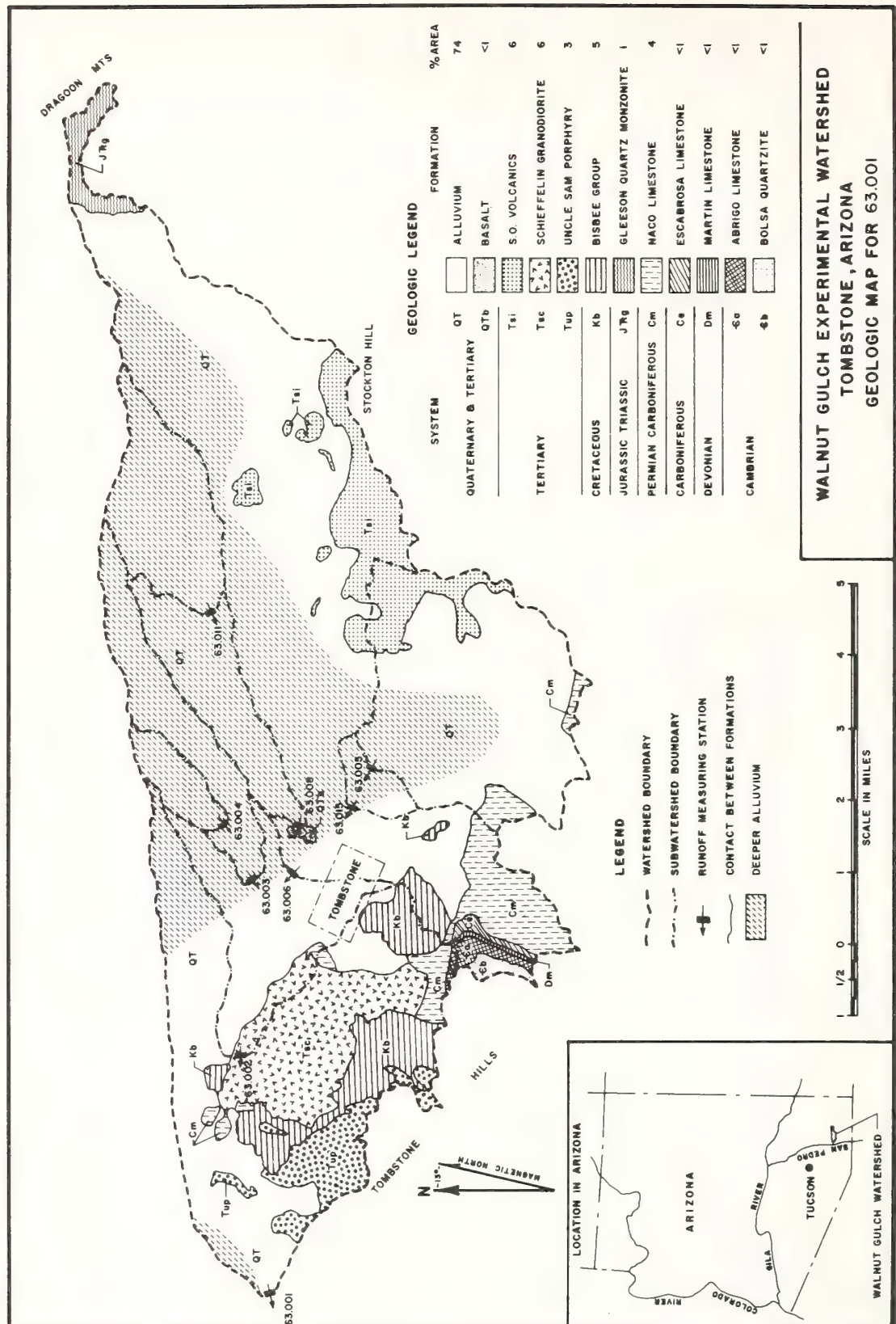
1965 SELECTED RUNOFF EVENT			TOMBSTONE, ARIZONA				WATERSHED 63.001			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
<u>Event of September 4, 1965 — Continued</u>										
	RG R-51		9-4	RG	R-51		9-4	1817	.015	.0073
8-8	.78	.0000		1600	0.00	0.00		1820	.014	.0080
8-9	.03	.0000		1603	0.80	0.04		1825	.013	.0091
8-13	.16	.0030		1606	4.00	0.24		1830	.013	.0102
8-16	.02	.0000		1609	4.00	0.44		1836	.012	.0115
8-18	.11	.0000		1612	3.60	0.62		1840	.012	.0123
8-22	.07	.0000		1615	2.60	0.75		1850	.010	.0141
9-2	.51	.0000		1630	0.72	0.93		1900	.007	.0155
9-3	.12	.0000		1648	0.27	1.01		1910	.006	.0165
9-4	1/ .39	.0000		1757	0.10	1.12		1920	.005	.0174
								1930	.004	.0182
								1945	.004	.0192
								2000	.004	.0203
								2015	.004	.0212
								2030	.002	.0220
								2100	.002	.0231
								2130	.001	.0239
								2200	.001	.0246
								2300	.001	.0255
								2400	.000	.0259
							9-5	0100	.000	.0261

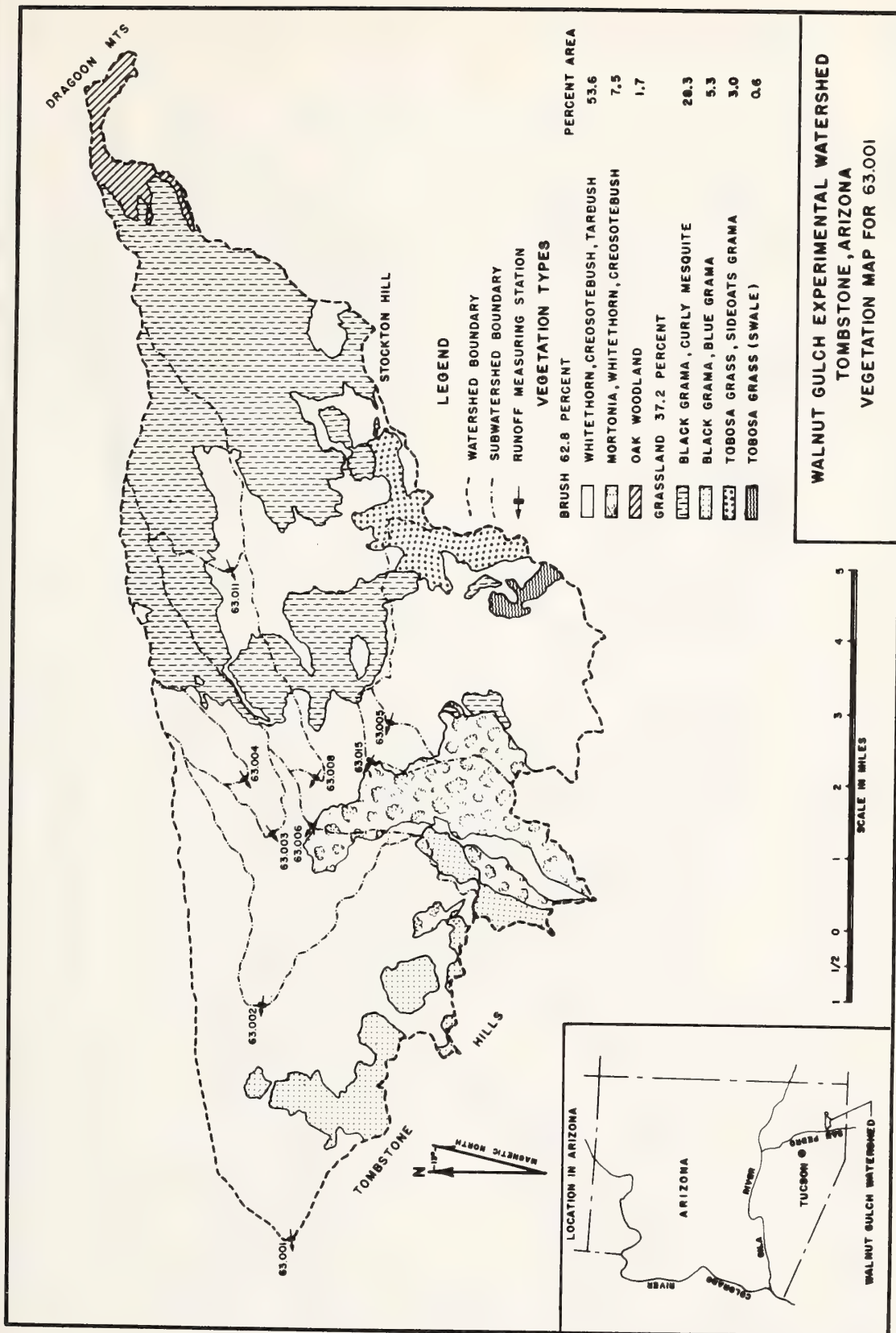
NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 37,207. 1/ RAIN ENDED 1316.

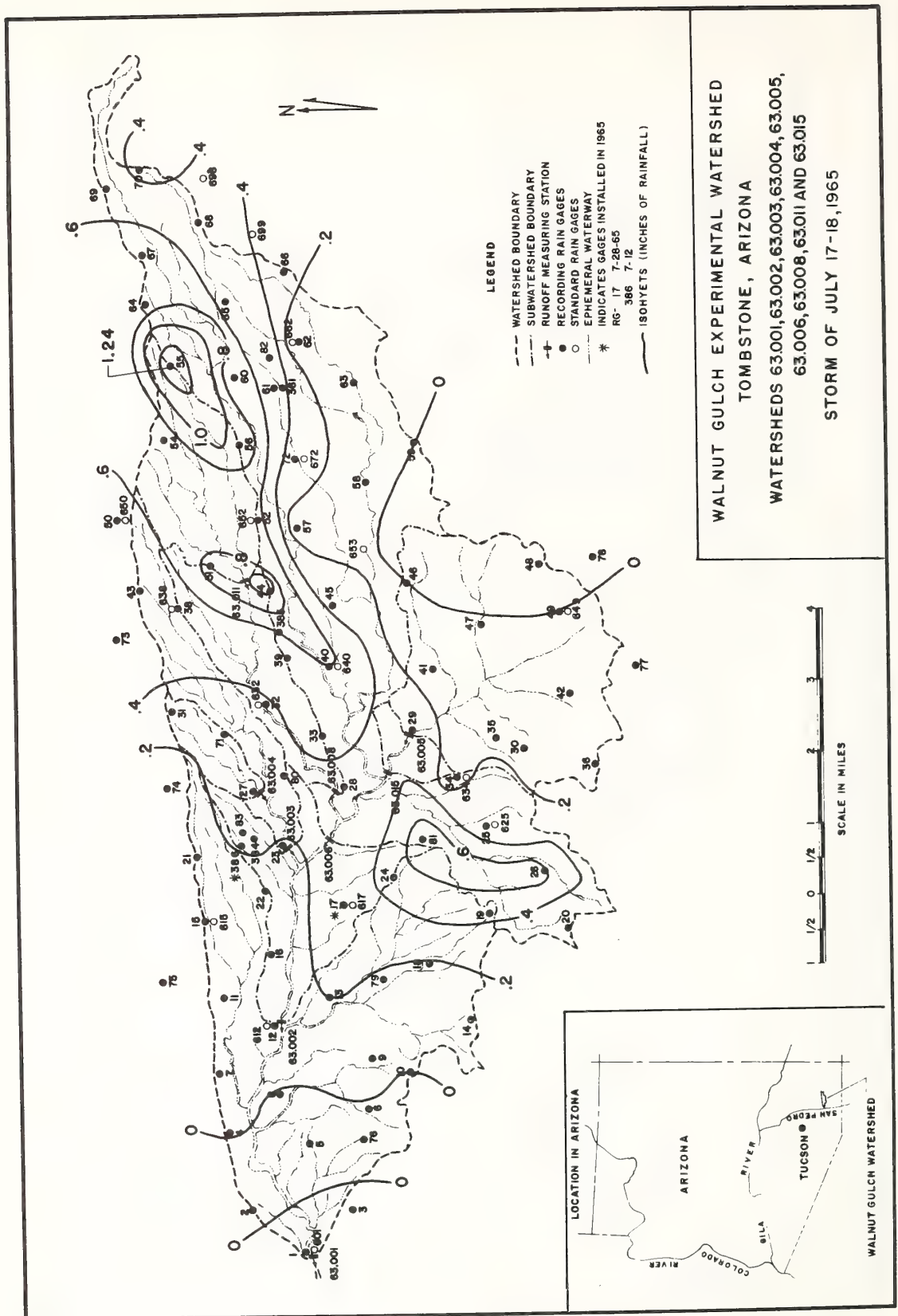


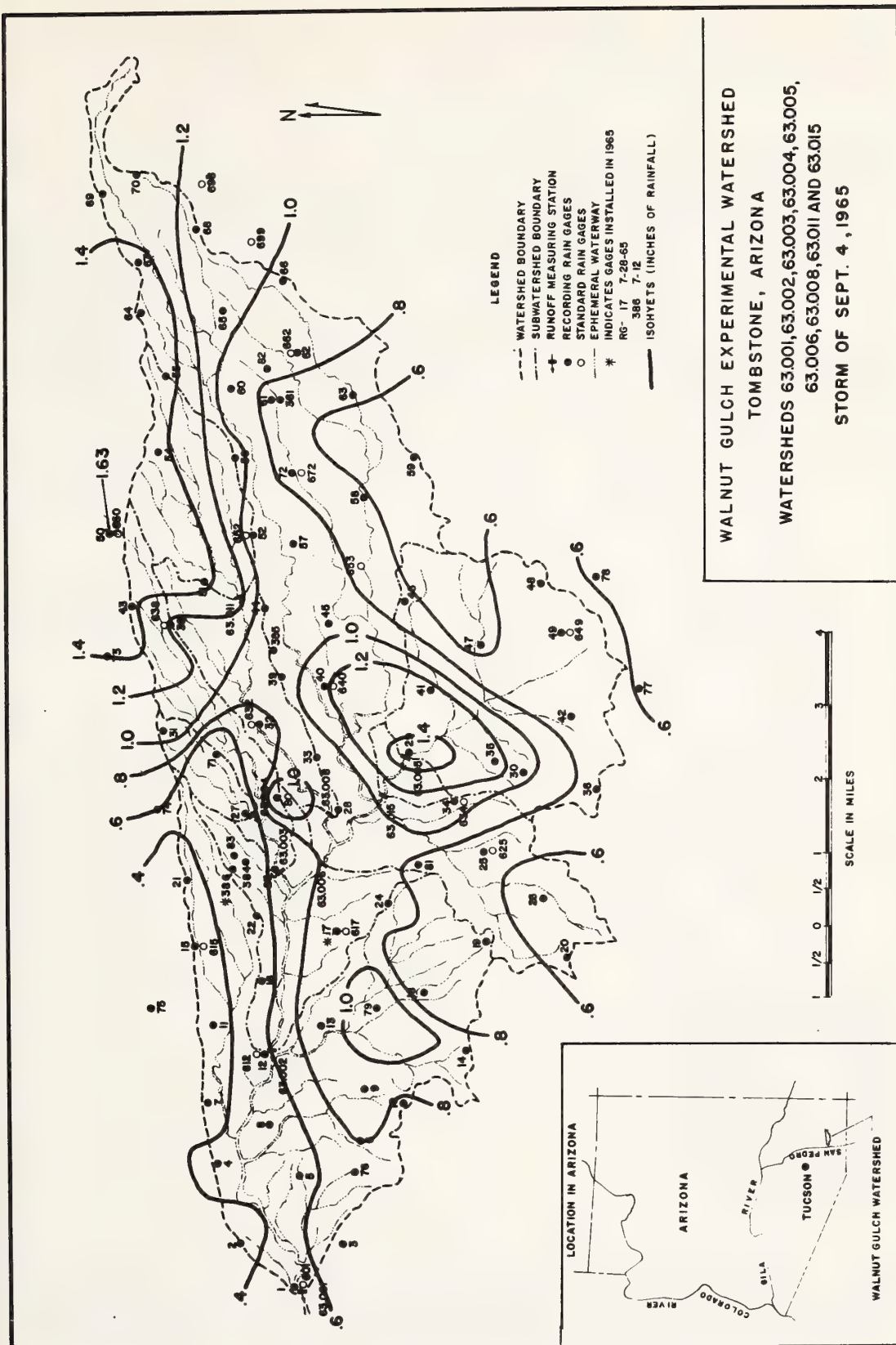
TOMBSTONE, ARIZONA WATERSHED 63.001













MONTHLY PRECIPITATION AND RUNOFF (inches)							TOMBSTONE, ARIZONA WATERSHED 63.002 AREA - 28,100 ACRES (43.9 SQ. MILES)							63.02		
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> /	.84	.11	.25	.01	.08	.19	3.69	1.90	1.72	.01	.28	3.16	12.24			
Q	.00	.00	.00	.00	.00	.00	.01	.01	.08	.00	.00	.00	.10			
STA AVG P <sub>2</sub> /	.64	.27	.23	.07	.01	.29	3.35	2.32	1.54	.66	.63	.96	10.97			
(59-65) Q	.00	.00	.00	.00	.00	.00	.10	.11	.10	T	.00	T	.31			
MEAN P <sub>3</sub> /	.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02			
68 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-4	.05	9-4	.04	9-4	.06	9-4	.07	9-4	.08	9-4	.08	9-4	.08	9-4	.08
MAXIMUMS FOR PERIOD OF RECORD																
19 59 TO	7-26	.16	7-26	.13	7-26	.17	7-26	.21	9-9	.24	9-9	.24	9-9	.24	9-9	.43
19 65	1959		1959		1959		1959		1964		1964		1964		1964	
NOTES: For watershed conditions see information below and vegetative cover map, page 63.1-4. 1/ Monthly precipitation is arithmetic average of 58 rain gages. 2/ Station average precipitation and runoff is for period 1959-65. 3/ Mean P based on 68-yr (1897-1964) U. S. Weather Bureau record period at Tombstone, Ariz.																
1965 SELECTED RUNOFF EVENTS							TOMBSTONE, ARIZONA WATERSHED 63.002							63.02		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
				Event of July 17, 1965 4/												
	RG R-44		7-17	RG	R-44		7-18									
7-5	.05	.0000		2340	0.00	0.00		0145	.000	.0000						
7-9	.17	.0000		2343	4.00	0.20		0146	.000	.0000						
7-10	.03	.0000		2345	12.90	0.63		0147	.000	.0000						
7-11	.07	.0000		2347	6.90	0.86		0148	.001	.0000						
7-13	.27	.0000		2351	1.50	0.96		0149	.006	.0001						
7-14	.06	.0000		2359	0.30	1.00		0150	.008	.0002						
7-16	.54	T						0152	.008	.0004						
								0154	.008	.0007						
								0156	.007	.0009						
	RG R-55		7-17	RG	R-55			0158	.007	.0012						
6-23	.02	.0000		2350	0.00	0.00		0200	.007	.0014						
7-9	.59	.0000		2355	4.08	0.34		0203	.007	.0017						
7-10	.05	.0000		2400	4.44	0.71		0205	.006	.0019						
7-11	.03	.0000	7-18	0002	7.50	0.96		0210	.006	.0024						
7-13	.21	.0000		0008	2.20	1.18		0215	.005	.0028						
7-14	.43	.0000		0032	0.03	1.19		0220	.004	.0032						
7-16	.62	T		0044	0.25	1.24		0225	.005	.0036						
								0230	.004	.0040						
								0235	.004	.0043						
								0240	.004	.0047						
								0245	.003	.0050						
								0250	.003	.0052						
								0255	.003	.0054						
								0300	.002	.0056						
								0310	.002	.0060						
								0320	.002	.0063						
								0330	.001	.0065						
								0340	.001	.0067						
								0350	.001	.0068						
								0400	T	.0069						
								0410	T	.0070						
								0430	T	.0071E						
								0530	.000E	.0071E						
Watershed Conditions: Includes subwatersheds 63.003, 63.004, 63.006, 63.008, 63.011, 63.015. Vegetation cover: Oak woodland and desert shrubs (whitethorn, creosote bush, tarbush, mormonia), with a crown spread of 25 percent cover, occupy 55 percent of the area. The remaining 45 percent supports grass (black grama, curly mesquite grass, tobosa grass, blue grama and sideoats grama), with a basal area of 2.5 percent cover, and a shrub cover of approximately 6 percent crown spread.																
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 28,330. FOR TOPOGRAPHIC MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, USDA MISC. PUB. 994. P. 63.1-2. FOR GEOLOGIC AND VEGETATION MAPS SEE P. 63.1-3, AND P. 63.1-4, THIS VOLUME. 4/ ISOHYETAL MAP ON P. 63.1-5.																

1965 SELECTED RUNOFF EVENTS			TOMBSTONE, ARIZONA WATERSHED 63.002				63.02			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
Event of September 4, 1965 1/										
	RG R-24		9-4	RG	R-24		9-4			
8-8	.30	.0000		1547	0.00	0.00		1612	.0000	.0000
8-13	1.34	.0100		1553	1.00	0.10		1613	.0000	.0000
8-15	.33	.0000		1555	7.50	0.35		1614	.002	.0000
8-16	.50	.0000		1600	2.76	0.58		1615	.005	.0001
8-30	.30	.0000		1605	1.44	0.70		1617	.005	.0002
9-2	.12	.0000		1615	0.60	0.80		1620	.005	.0005
9-3	.16	.0000		1639	0.20	0.88		1625	.004	.0009
9-4	.04	.0000		1712	0.07	0.92		1630	.005	.0013
								1632	.005	.0014
	RG R-55		9-4	RG	R-55			1635	.005	.0017
8-5	.23	.0000		1610	0.00	0.00		1637	.004	.0018
8-8	.77	.0000		1615	1.56	0.13		1640	.004	.0020
8-9	.09	.0000		1617	5.70	0.32		1643	.005	.0023
8-13	.34	.0100		1621	3.15	0.53		1645	.004	.0024
8-17	.04	.0000		1625	4.20	0.81		1650	.004	.0028
8-18	.76	.0000		1630	1.68	0.95		1653	.004	.0030
8-20	.29	.0000		1637	1.54	1.13		1654	.005	.0030
8-22	.22	.0000		1641	2.70	1.31		1655	.006	.0031
9-1	.05	.0000		1710	0.23	1.42		1656	.007	.0032
9-2	.50	.0000		1753	0.17	1.54		1659	.007	.0036
9-3	.32	.0000						1700	.007	.0037
								1704	.007	.0042
								1705	.007	.0043
								1706	.008	.0044
								1707	.010	.0046
								1708	.011	.0047
								1710	.013	.0051
								1712	.015	.0056
								1714	.019	.0062
								1716	.023	.0069
								1718	.031	.0078
								1720	.032	.0088
								1721	.033	.0094
								1722	.036	.0099
								1723	.042	.0106
								1724	.047	.0113
								1725	.049	.0121
								1730	.051	.0162
								1735	.049	.0204

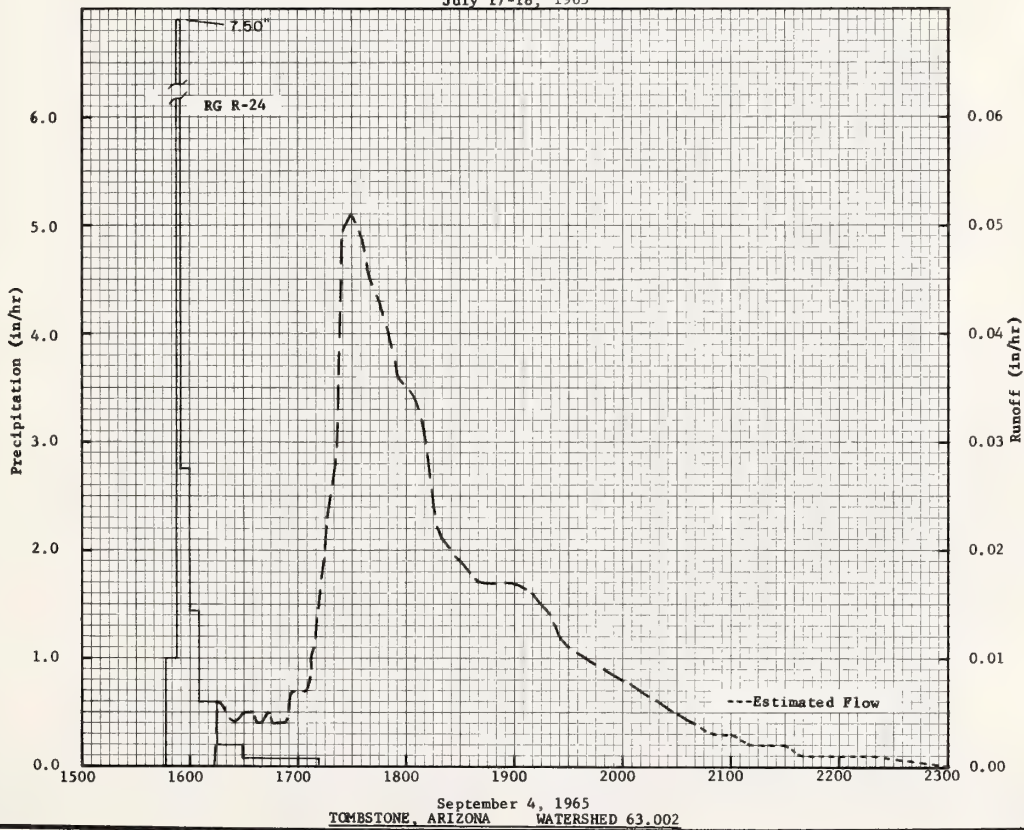
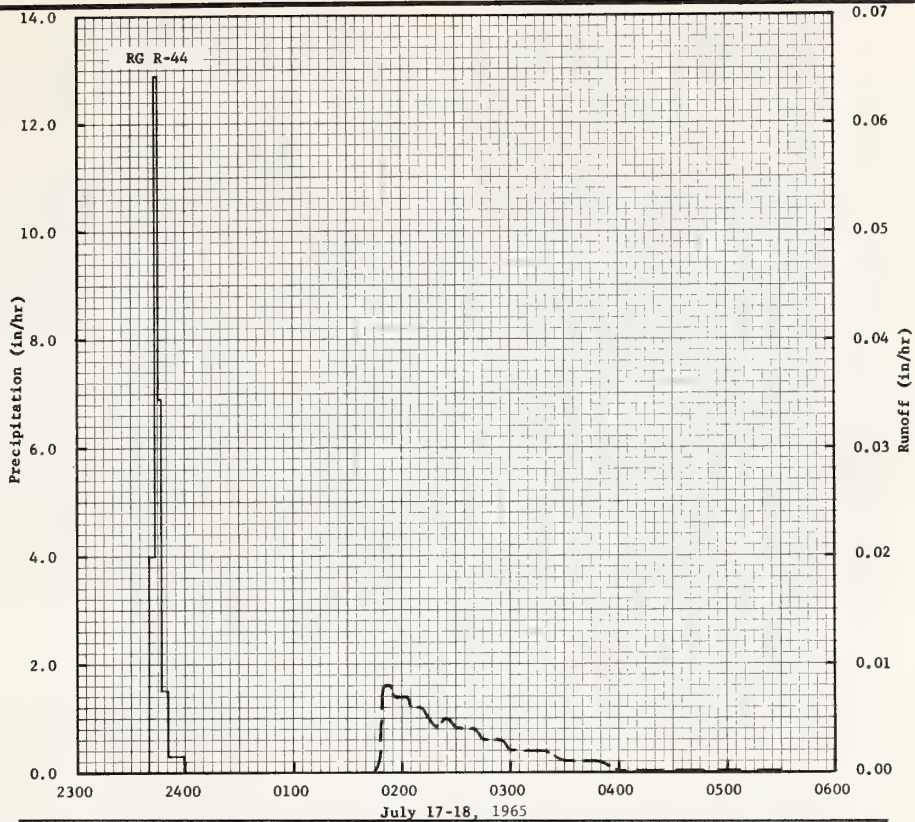
Watershed Conditions: The same as for selected event of July 17, 1965. See previous page 63.2-1.

Continued on next page

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 28,330. 1/ ISOHYETAL MAP ON P. 63.1-6.

1965 SELECTED RUNOFF EVENTS			TOMBSTONE, ARIZONA WATERSHED 63.002				63.02			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
Event of September 4, 1965—Continued										
8-5	RG R-65 .27	.0000	9-4	RG 1515	R-65 0.00	0.00	9-4	1740	.045	.0243
8-8	.58	.0000		1521	0.20	0.02		1745	.043	.0280
8-9	.07	.0000		1550	0.00	0.02		1750	.040	.0314
8-13	.35	.0100		1559	0.80	0.14		1755	.036	.0346
								1800	.035	.0376
8-15	.07	.0000		1602	3.60	0.32		1805	.034	.0404
8-16	.05	.0000		1606	4.95	0.65		1810	.031	.0431
8-17	.03	.0000		1609	3.00	0.80		1815	.024	.0454
8-18	.48	.0000		1614	2.88	1.04		1820	.021	.0473
8-19	.05	.0000		1617	2.40	1.16		1830	.019	.0506
8-20	.27	.0000		1623	1.00	1.26		1840	.017	.0536
8-22	.03	.0000		1630	0.51	1.32		1850	.017	.0564
8-26	.05	.0000		1650	0.18	1.38		1900	.017	.0591
8-29	.03	.0000		1709	0.06	1.40		1910	.016	.0618
9-2	.20	.0000		1759	0.02	1.42		1920	.014	.0643
9-3	.37	.0000						1925	.012	.0653
								1930	.011	.0663
								1940	.010	.0680
								1950	.009	.0695
								2000	.008	.0709
								2010	.007	.0722
								2020	.006	.0733
								2030	.005	.0742
								2040	.004	.0749
								2050	.003E	.0755E
								2100	.003E	.0761E
								2110	.002E	.0765E
								2120	.002E	.0769E
								2130	.002E	.0772E
								2140	.001E	.0774E
								2150	.001E	.0776E
								2200	.001E	.0778E
								2210	.001E	.0780E
								2220	.001E	.0781E
								2230	.000E	.0782E
								2240	T	.0783E
								2250	T	.0783E
								2300	.000E	.0784E
								2400	.000E	.0784E

NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 28,330.

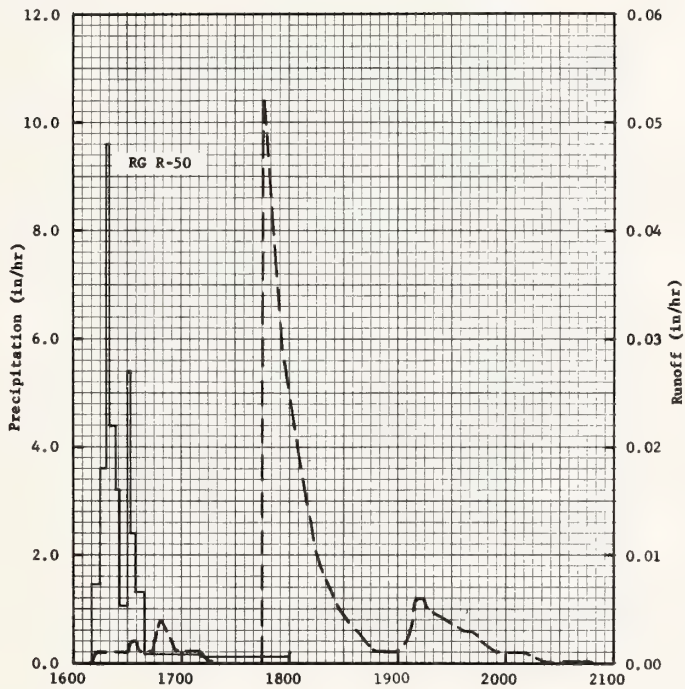




MONTHLY PRECIPITATION AND RUNOFF (inches)						TOMBSTONE, ARIZONA WATERSHED 63.003 AREA - 2220 ACRES (3.47 SQ. MILES)										63.03	
MONTH		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965	P 1/	.66	.08	.23	.00	.10	.18	3.61	1.48	1.88	.00	.25	3.34	11.81			
	Q	.00	.00	.00	.00	.00	.00	T	.01	.02	.00	.00	.00	.03			
STA AVG	P 2/	.52	.11	.22	.08	.02	.18	3.24	2.14	1.82	.56	.64	1.07	10.60			
(61-65)	Q	.00	.00	.00	.00	.00	T	.03	.08	.05	.00	.00	.00	.16			
MEAN	P 3/																
68 YR		.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL														
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS		
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	
1965	9-4	.05	9-4	.01	9-4	.02	9-4	.02	9-4	.02	9-4	.02	9-4	.02	9-4	.02	
MAXIMUMS FOR PERIOD OF RECORD																	
1961 TO 1965	8-17 1961	.43	8-17 1961	.28	8-17 1961	.32	8-17 1961	.32	8-17 1961	.32	8-17 1961	.32	8-17 1961	.32	8-17 1961	.32	
NOTES: For watershed conditions see information below and vegetative cover map, page 63.1-4. 1/ Monthly precipitation is arithmetic average of 8 rain gages of watershed. 2/ Precipitation and runoff station average based on period 1961-65. 3/ Mean P based on 68-yr (1897-1964) U. S. weather Bureau record period at Tombstone, Ariz.																	
1965 SELECTED RUNOFF EVENT						TOMBSTONE, ARIZONA WATERSHED 63.003											63.03
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF										
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)							

1965 SELECTED RUNOFF EVENT			TOMBSTONE, ARIZONA				WATERSHED 63.003			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
Event of September 4, 1965 continued										
8-8	RG R-50 .98	.0000	9-4	RG	R-50		9-4	1837	.003	.0171
8-9	.15	.0000		1610	0.00	0.00		1842	.002	.0172
8-13	.23	.0100		1615	1.44	0.12		1847	.001	.0174
8-16	.04	.0000		1618	3.60	0.30		1854	.001	.0175
				1620	9.60	0.62		1859	.001	.0176
8-18	.36	.0000		1623	4.40	0.84		1905	.002	.0176
9-1	.05	.0000		1626	3.20	1.00		1906	.002	.0177
9-2	1.06	.0000		1630	1.05	1.07		1907	.003	.0177
9-3	.17	.0000		1632	5.40	1.25		1908	.004	.0178
9-4	1/.12	.0000		1634	2.40	1.33		1910	.006	.0179
				1639	1.32	1.44		1914	.006	.0183
				1711	0.17	1.53		1917	.005	.0186
				1759	0.13	1.63		1927	.004	.0193
								1937	.003	.0199
								1942	.003	.0201
								1947	.002	.0203
								1954	.001	.0205
								2001	.001	.0206
								2007	.001	.0207
								2012	.001	.0208
								2022	TE	.0209E
								2047	.000E	.0209E

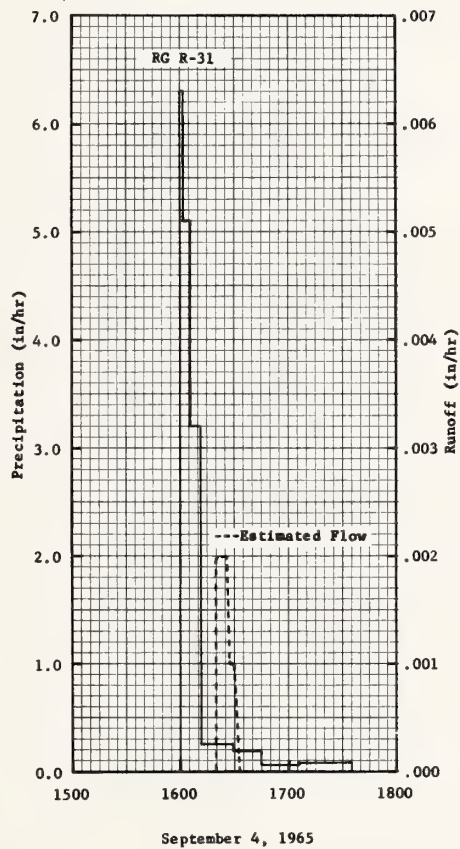
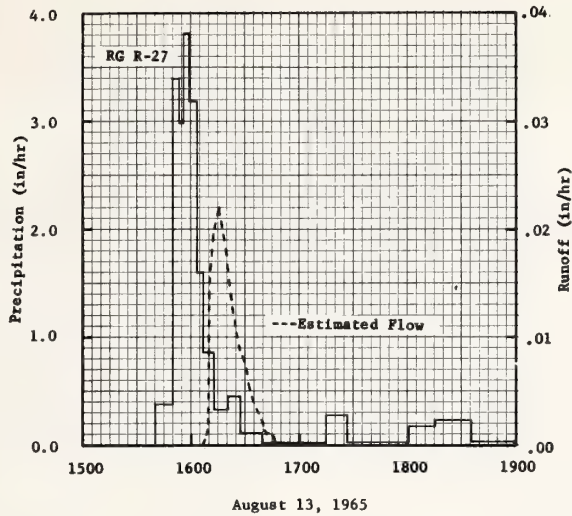
NOTES: TO CONVERT IN IN/HR TO CFS, MULTIPLY BY 2238. 1/ RAIN ENDED AT 1320.



September 4, 1965

TOMBSTONE, ARIZONA WATERSHED 63.003

MONTHLY PRECIPITATION AND RUNOFF (inches)							TOMBSTONE, ARIZONA WATERSHED 63.004 AREA - 560 ACRES							53.04		
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
P 1	.60	.08	.24	.00	.12	.13	2.97	1.42	1.20	.00	.25	3.39	10.40			
Q	.00	.00	.00	.00	.00	.00	.00	.01	T	.00	.00	.00	.01			
STA AVG P 2	.63	.30	.43	.15	.04	.29	3.76	2.94	.99	.59	.44	.64	11.20			
Q	.00	.00	.00	.00	.00	.00	.48	.14	.02	.00	.00	.00	.64			
MEAN P 3	.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02			
68 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-13	.02E	8-13	.01E	8-13	.01E	8-13	.01E	8-13	.01E	8-13	.01E	8-13	.01E	8-13	.01E
MAXIMUMS FOR PERIOD OF RECORD																
1955 TO	7-19	2.25	7-19	.99	7-19	1.05	7-19	1.10	7-19	1.10	7-19	1.63	7-25	1.68	7-19	4.37
1965	1955		1955		1955		1955		1955		1955		1955		1955	
Notes: For watershed conditions see information below and vegetative cover map, page 63.1-4. 1/ Monthly precipitation is arithmetic average of 3 rain gages: 2/ Precipitation and runoff records began in 1955. 3/ Mean P based on 68-yr (1897-1964) U. S. Weather Bureau record period at Tombstone, Ariz.																
1965 SELECTED RUNOFF EVENT							TOMBSTONE, ARIZONA WATERSHED 63.004							63.04		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
Event of August 13, 1965																
	RG R-27		8-13	RG	R-27		8-13									
7-13	.13	.0000		1540	0.00	0.00		1607E	.000E	.0000E						
7-16	.38	.0000		1550	0.38	0.06		1608	.001E	.0000E						
7-17	.31	.0000		1553	3.39	0.23		1609	.003E	.0000E						
7-21	.20	.0000		1556	2.97	0.38		1610	.009E	.0001E						
7-22	.09	.0000		1559	3.82	0.57		1611	.014E	.0003E						
7-23	.03	.0000		1603	3.18	0.78		1613	.020E	.0009E						
7-25	.37	.0000		1607	1.59	0.89		1616	.022E	.0020E						
7-27	.88	.0000		1613	0.85	0.97		1620	.018E	.0033E						
7-28	.05	.0000		1621	0.32	1.02		1622	.014E	.0038E						
8-1	.05	.0000		1628	0.45	1.07		1625	.011E	.0045E						
8-8	.20	.0000		1639	0.11	1.09		1627	.009E	.0048E						
				1715	0.02	1.10		1629	.008E	.0051E						
				1727	0.27	1.15		1631	.007E	.0053E						
				1801	0.02	1.17		1633	.005E	.0055E						
				1816	0.17	1.21		1635	.004E	.0057E						
				1836	0.22	1.28		1638	.003E	.0059E						
				1859	0.03	1.29		1640	.002E	.0059E						
								1642	.001E	.0060E						
								1645	.001E	.0061E						
								1647	.000E	.0061E						
Event of September 4, 1965 4/																
	RG R-27		9-4	RG	R-27		9-4									
8-8	.20	.0000		1555	0.00	0.00		1618E	.000E	.0000						
8-13	1.29	.0061		1558	1.40	0.07		1619	.000E	.0000E						
8-16	.24	.0000		1602	1.95	0.20		1620	.002E	.0000E						
8-17	.02	.0000		1608	0.90	0.29		1623	.002E	.0001E						
8-30	.05	.0000		1618	0.54	0.38		1626	.002E	.0003E						
9-2	.23	.0000		1635	0.28	0.46		1628	.001E	.0003E						
9-3	.10	.0000		1655	0.15	0.51		1630	.001E	.0004E						
				1728	0.04	0.53		1633	.000E	.0004E						
								1635	.000E	.0004E						
	RG R-31		9-4	RG	R-31			1638	.000E	.0004E						
8-8	.42	.0000		1600	0.00	0.00		1640	.000E	.0004E						
8-9	.15	.0000		1602	6.30	0.21										
8-13	.39	.0061		1606	5.10	0.55										
8-16	.04	.0000		1612	3.20	0.87										
8-26	.02	.0000		1629	0.25	0.94										
				1645	0.19	0.99										
				1706	0.06	1.01										
				1735	0.08	1.05										
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 565. FOR TOPOGRAPHIC MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-1961, USDA MISC. PUB. 994. P. 63.1-2. FOR GEOLOGIC AND VEGETATIVE MAPS OF WATERSHED SEE P. 63.1-3, AND 63.1-4, THIS VOLUME. 4/ ISOHYETAL MAP ON P. 63.1-6.																



TOMBSTONE, ARIZONA WATERSHED 63.004



MONTHLY PRECIPITATION AND RUNOFF (inches)							TOMBSTONE, ARIZONA WATERSHED 63.006 AREA - 23,500 ACRES (36.7 SQ. MILES)							63.06	
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
P 1/ Q	.90 .00	.12 .00	.26 .00	T .00	.08 .00	.20 .00	3.67 .01	1.96 T	1.75 .08	.01 .00	.31 .00	3.09 .00	12.35 .09		
STA AVG P 2/ (62-65) Q	.65 .00	.14 .00	.34 .00	.10 .00	.02 .00	.11 .00	3.75 .11	2.11 .01	2.06 .25	.25 .00	.79 .00	1.13 .00	11.45 .37		
MEAN P 3/ 68 YR	.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02		

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-4	.06	9-4	.05	9-4	.06	9-4	.07	9-4	.07	9-4	.07	9-4	.07	9-4	.08

MAXIMUMS FOR PERIOD OF RECORD																
19 62 TO 19 65	8-19 1963	.08	8-19 1963	.07	8-19 1963	.09	8-19 1963	.11	8-19 1963	.11	8-19 1963	.11	8-19 1963	.11	8-19 1963	.18

NOTES: For watershed conditions see information below and vegetative cover map, page 63.1-4. 1/ Monthly precipitation is arithmetic average of 45 rain gages. 2/ Precipitation and runoff began in 1962. 3/ Mean P based on 68-yr (1897-1964) U. S. Weather Bureau record period at Tombstone, Ariz.

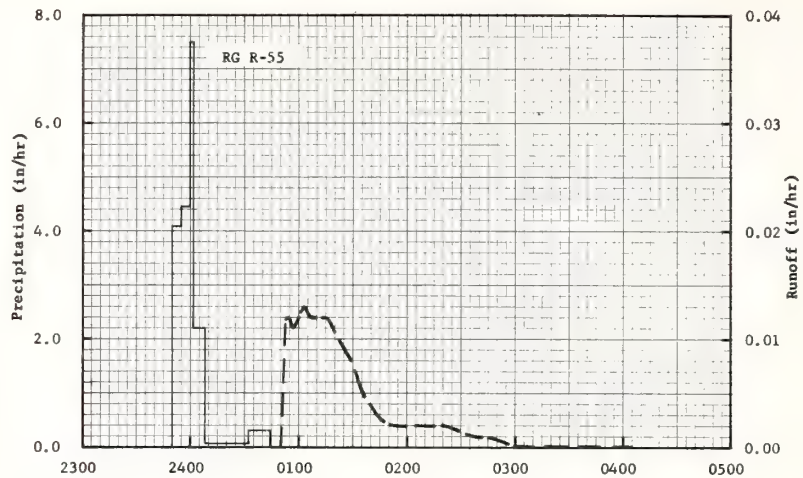
1965 SELECTED RUNOFF EVENT				TOMBSTONE, ARIZONA WATERSHED 63.006				63.06			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)	
			Event of July 17-18, 1965 <sup>4/</sup>								
6-23	RG R-55 .02	.0000	7-17	RG 2350	R-55 0.00	0.00	7-18	0050	.000	.0000	
7-9	.59	.0000		2355	4.08	0.34		0051	.003	.0000	
7-10	.05	.0000		2400	4.44	0.71		0053	.012	.0003	
7-11	.03	.0000	7-18	0002	7.50	0.96		0054	.012	.0005	
7-13	.21	.0000		0008	2.20	1.18		0057	.011	.0010	
7-14	.43	.0000		0032	0.03	1.19		0100	.012	.0016	
7-16	.62	.0000		0044	0.25	1.24		0103	.013	.0022	
								0106	.012	.0029	
								0116	.012	.0049	
								0126	.009	.0066	
								0136	.005	.0078	
								0151	.002	.0087	
								0206	.002	.0092	
								0221	.002	.0096	
								0236	.001	.0100	
								0306	.000	.0103	
								0336	.000	.0103	
								0406	TE	.0104	
								0536	.000	.0104	

Watershed conditions: Includes subwatersheds 63.008, 63.011, and 63.015. Vegetation cover: Oak woodland and desert shrubs (whitethorn, creosote bush, tar-bush, mortonia) occupy approximately 45 percent of the area, with a crown spread of 25 percent cover. The remaining 55 percent of the area supports a grass cover (black grama, curly mesquite grass, tobosa grass, blue grama, and sideoats grama) with a basal area of 2.5 percent cover and a shrub cover of approximately 6 percent crown spread.

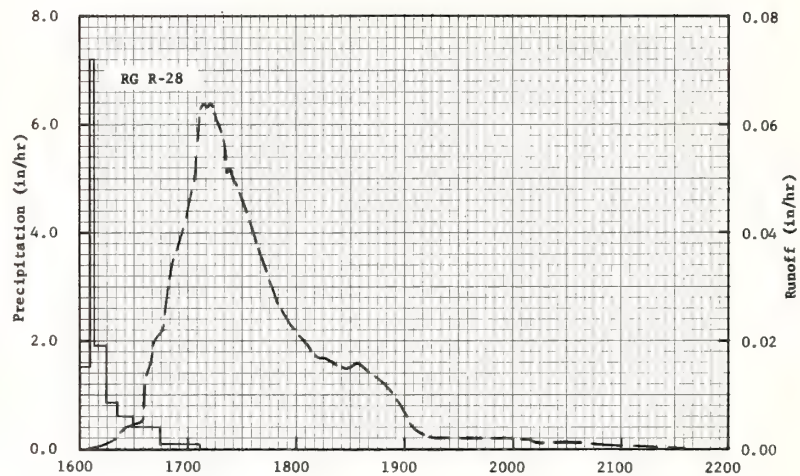
NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 23,696. FOR TOPOGRAPHIC MAP OF WATERSHED SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. 1960-61, USDA, MISC. PUB. 994. P. 63.1-2; FOR GEOLOGIC AND VEGETATION MAPS, SEE P. 63.1-3 AND P. 63.1-4, THIS VOLUME. 4/ ISOHYETAL MAP ON P. 63.1-5.

1965 SELECTED RUNOFF EVENT			TOMBSTONE, ARIZONA				WATERSHED 63.006			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
Event of September 4, 1965 <u>1/</u>										
	RG R-28		9-4	RG	R-28		9-4			
8-8	.29	.0000		1600	0.00	0.00		1510	.000	.0000
8-9	.09	.0000		1606	1.50	0.15		1512	.000	.0000
8-13	.89	.0006		1608	7.20	0.39		1518	.000	.0000
8-16	.71	T		1614	1.90	0.58		1524	.000	.0000
8-18	.12	T		1622	0.83	0.69		1530	.000	.0000
8-30	.56	.0002		1629	0.60	0.76		1545	.000	.0000
9-2	.03	.0015		1644	0.40	0.86		1600	.000	.0000
9-3	.36	T		1707	0.10	0.90		1605	.000	.0000
								1615	.001	.0001
	RG R-29		9-4	RG	R-29			1620	.002	.0003
8-8	.29	.0000		1515	0.00	0.00		1625	.004	.0006
8-9	.03	.0000		1521	0.20	0.02		1627	.004	.0007
8-13	.40	.0006		1550	0.00	0.02		1633	.004	.0011
8-16	.45	T		1559	0.80	0.14		1635	.005	.0012
8-17	.02	.0000		1602	3.60	0.32		1637	.014	.0016
8-18	.15	T		1606	4.95	0.65		1640	.019	.0024
8-22	.16	.0000		1609	3.00	0.80		1646	.022	.0045
8-30	.55	.0002		1617	2.40	1.16		1652	.034	.0073
9-2	.07	.0015		1623	1.00	1.26		1658	.040	.0110
9-3	.47	T		1630	0.51	1.32		1704	.051	.0156
9-4	<u>2/</u> .03	.0000		1650	0.18	1.38		1707	.063	.0184
				1709	0.06	1.40		1709	.064	.0206
				1759	0.02	1.42		1711	.063	.0227
								1713	.064	.0248
								1714	.063	.0259
								1716	.061	.0279
								1717	.060	.0289
								1720	.057	.0319
								1722	.051	.0337
								1723	.052	.0345
								1725	.050	.0362
								1728	.049	.0387
								1734	.042	.0433
								1749	.027	.0519
								1804	.020	.0578
								1811	.017	.0600
								1812	.017	.0603
								1814	.017	.0609
								1819	.016	.0622
								1829	.015	.0648
								1834	.016	.0660
								1849	.012	.0695
								1904	.004	.0715
								1914	.002	.0720
								1919	.002	.0722
								1923	.002	.0724
								1924	.002	.0724
								1927	.002	.0725
								1929	.002	.0726
								1939	.002	.0729
								1954	.002	.0734
								2004	.002	.0737
								2009	.002	.0738
								2014	.001	.0739
								2019	.001	.0740
								2024	.001	.0741
								2034	.001	.0742
								2058	.000	.0744
								2116	TE	.0745
								2134	TE	.0746
								2304	.000	.0746

NOTES: TO CONVERT RUNOFF IN IN/HR, MULTIPLY BY 23,696. 1/ ISOHYETAL MAP ON P. 63.1-6. 2/ RAINFALL ENDED AT 1350.



July 17-18, 1965



September 4, 1965

TOMBSTONE, ARIZONA WATERSHED 63.006

MONTHLY PRECIPITATION AND RUNOFF (inches)						TOMBSTONE, ARIZONA WATERSHED 63.008 AREA - 3830 ACRES (5.98 SQ. MILES)								63.08	
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965 P 1/	.88	.07	.27	.00	.08	.20	3.82	1.98	2.04	.00	.32	3.38	13.04		
Q	.00	.00	.00	.00	.00	.00	.07	T	.18	.00	.00	.00	.25		
STA AVG P 2/	.39	.15	.23	.13	.03	.07	3.73	2.73	2.45	.29	.82	1.31	12.33		
(63-65) Q	.00	.00	.00	.00	.00	.00	.15	.12	.15	.00	.00	.00	.42		
MEAN P 3/															
68 YR	.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02		

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-4	.22	9-4	.10	9-4	.14	9-4	.16	9-4	.17	9-4	.17	9-4	.17	8-30	.18

MAXIMUMS FOR PERIOD OF RECORD																
1963 TO 1965	7-22 1964	1.11	7-22 1964	.31	7-22 1964	.32	7-22 1964	.34	7-22 1964	.34	7-22 1964	.34	7-22 1964	.34	7-22 1964	.34

NOTES: For watershed conditions see information below and vegetative cover map, page 63.1-4. 1/ Monthly precipitation is arithmetic average of 8 rain gages on watershed. 2/ Precipitation and runoff records began July 31, 1963. 3/ Mean P based on 68-yr. (1897-1964) U.S. Weather Bureau record period at Tombstone, Ariz.

1965 SELECTED RUNOFF EVENT						TOMBSTONE, ARIZONA WATERSHED 63.008						63.08	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)			
Event of July 17-18, 1965 4/													
7-5	RG R-44		7-17	RG	R-44		7-18						
7-9	.05	.0000		2340	0.00	0.00		0037	.000	.0000			
7-10	.17	.0000		2343	4.00	0.20		0040	.094	.0023			
7-10	.03	.0000		2345	12.90	0.63		0043	.108	.0074			
7-11	.07	.0000		2347	6.90	0.86		0046	.112	.0129			
7-13	.27	.0000		2351	1.50	0.96		0047	.104	.0147			
7-14	.06	.0015		2359	0.30	1.00		0049	.099	.0181			
7-16	.54	.0000						0052	.100	.0230			
								0055	.099	.0280			
								0056	.088	.0295			
6-23	RG R-55		7-17	RG	R-55			0058	.074	.0322			
7-9	.02	.0000		2350	0.00	0.00		0059	.084	.0336			
7-10	.59	.0000		2355	4.08	0.34		0100	.076	.0349			
7-10	.05	.0000		2400	4.44	0.71		0101	.068	.0361			
7-11	.03	.0000	7-18	0002	7.50	0.96		0102	.071	.0372			
7-13	.21	.0000		0008	2.20	1.18		0103	.068	.0384			
7-14	.43	.0015		0032	0.03	1.19		0107	.068	.0429			
7-16	.58	.0000		0044	0.25	1.24		0111	.042	.0466			
								0112	.042	.0473			
								0117	.031	.0503			
Watershed conditions: (Includes Watershed 63.011) Vegetation cover: Approximately one-third of the area is dominated by desert shrubs (whitethorn, creosotebush, tarbush) with a crown spread of approximately 30 percent and an understory of grasses with less than 1 percent basal area. The remaining two-thirds of the area is dominated by grasses (black grama, curly mesquite grass, sideoats grama), with a basal area of about 2.5 percent, interspersed by desert shrubs with a crown spread of about 5 percent.													
								0120	.033	.0519			
								0130	.017	.0561			
								0136	.015	.0577			
								0200	.010	.0627			
								0248	.003	.0679			
								0333	.000	.0692			
								0445	.000	.0695			

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3861.9. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE U. S. 1960-61, USDA NISC. PUB. 994, P. 63.1-2. FOR GEOLOGIC AND VEGETATION MAPS SEE P. 63.1-3 AND 63.1-4, THIS VOLUME. 4/ ISOHYETAL MAP ON P. 63.1-5.

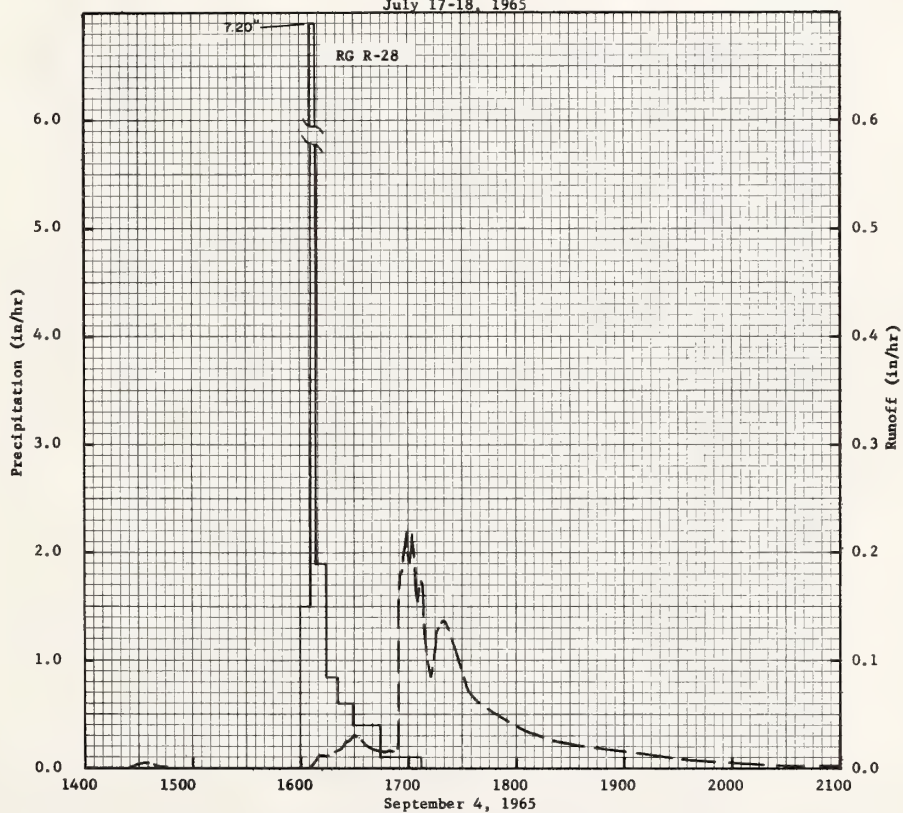
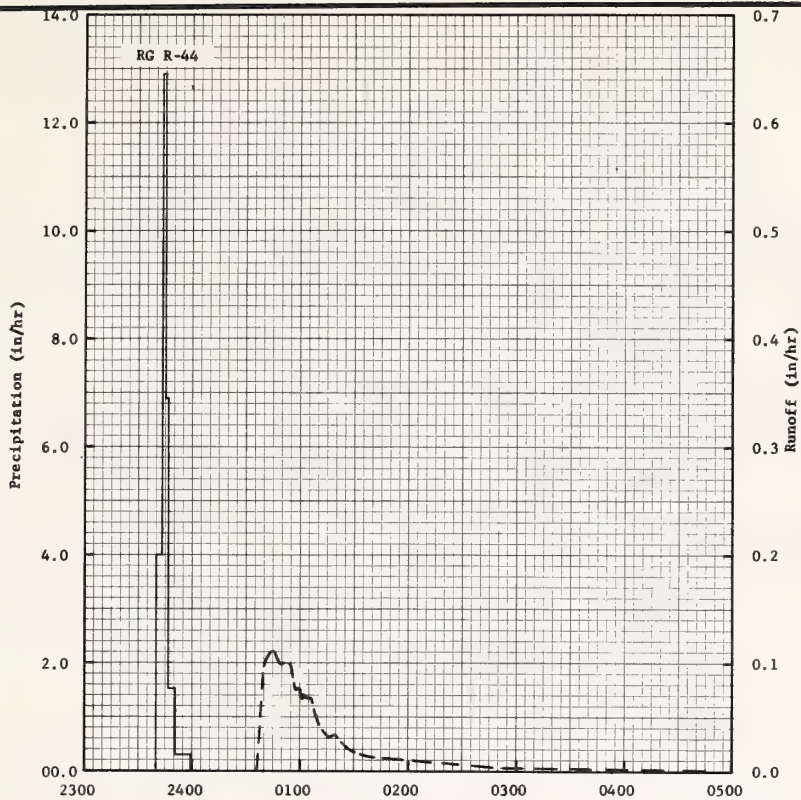
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3861.9. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE U. S. 1960-61, USDA MISC. PUB. 994, P. 63.1-2. FOR GEOLOGIC AND VEGETATION MAPS SEE P. 63.1-3 AND 63.1-4, THIS VOLUME. 4/ ISOHYETAL MAP ON P. 63.1-5.

Cooperative Research Project of USDA and Arizona Agricultural Experiment Station



1965 SELECTED RUNOFF EVENT			TOMBSTONE, ARIZONA WATERSHED 63.008							63.08
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
Event of September 4, 1965 <sup>1/</sup>										
8-8	RG R-28 .29		9-4	RG	R-28		9-4			
8-9	.09			1600	0.00	0.00		1426	.000	.0000
8-13	.89	.0001		1606	1.50	0.15		1429	.002	.0001
8-16	.71	.0007		1608	7.20	0.39		1433	.003	.0002
				1614	1.90	0.58		1436	.003	.0004
8-18	.12	.0003		1622	0.83	0.69		1441	.001	.0006
8-30	.56	.0002		1629	0.60	0.76		1446	.001	.0006
9-2	.03	.0127		1644	0.40	0.86		1451	.000	.0007
9-3	.36			1707	0.10	0.90		1456	.000	.0007
9-4	<u>2/</u> .02	<u>3/</u> .0007						1506	.000	.0007
8-8	RG R-51 .78		9-4	RG	R-51			1509	.000	.0007
8-9	.03			1600	0.00	0.00		1512	.000	.0007
8-13	.16	.0001		1603	0.80	0.04		1517	.000	.0007
8-16	.02	.0007		1606	4.00	0.24		1522	.000	.0007
				1609	4.00	0.44		1532	.000	.0007
8-18	.11	.0003		1612	3.60	0.62		1538	.000	.0007
8-22	.07			1615	2.60	0.75		1542	.000	.0007
9-2	.51	.0127		1630	0.72	0.93		1546	.000	.0007
9-3	.12			1648	0.27	1.01		1558	.000	.0007
9-4	<u>4/</u> .39	<u>3/</u> .0007		1757	0.10	1.12		1603	.000	.0007
								1606	.000	.0007
								1608	.005	.0007
								1611	.012	.0012
								1613	.011	.0016
								1619	.015	.0029
								1620	.014	.0031
								1623	.017	.0039
								1626	.023	.0049
								1628	.025	.0057
								1631	.030	.0070
								1633	.028	.0080
								1638	.020	.0100
								1643	.017	.0115
								1648	.018	.0130
								1653	.015	.0144
								1654	.017	.0146
								1655	.155	.0160
								1656	.180	.0188
								1657	.184	.0219
								1658	.207	.0251
								1659	.219	.0287
								1701	.191	.0355
								1702	.217	.0389
								1703	.195	.0423
								1706	.153	.0510
								1707	.172	.0537
								1708	.140	.0563
								1711	.107	.0625
								1713	.084	.0657
								1716	.127	.0710
								1719	.137	.0776
								1723	.128	.0864
								1728	.100	.0959
								1733	.072	.1030
								1738	.063	.1087
								1808	.033	.1327
								1838	.021	.1463
								1938	.008	.1608
								2038	.001	.1655
								2328	.000	.1660

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 3861.9. <sup>1/</sup> ISOHYETAL MAP ON P. 63.1-6. <sup>2/</sup> RAIN ENDED AT 1335. <sup>3/</sup> SMALL RUNOFF (1426 TO 1603) FROM ANTECEDENT RAINFALL OF SEPTEMBER 4, 1965, INCLUDED IN RUNOFF TABULATIONS AND PLOTTING. <sup>4/</sup> RAIN ENDED AT 1316.



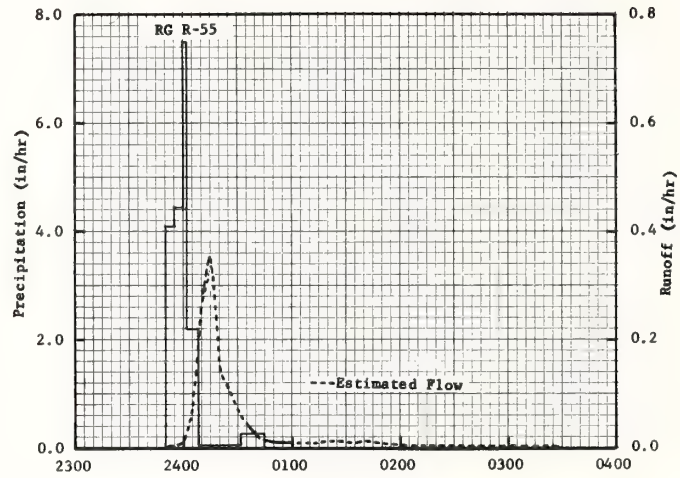
TOMBSTONE, ARIZONA WATERSHED 63.008



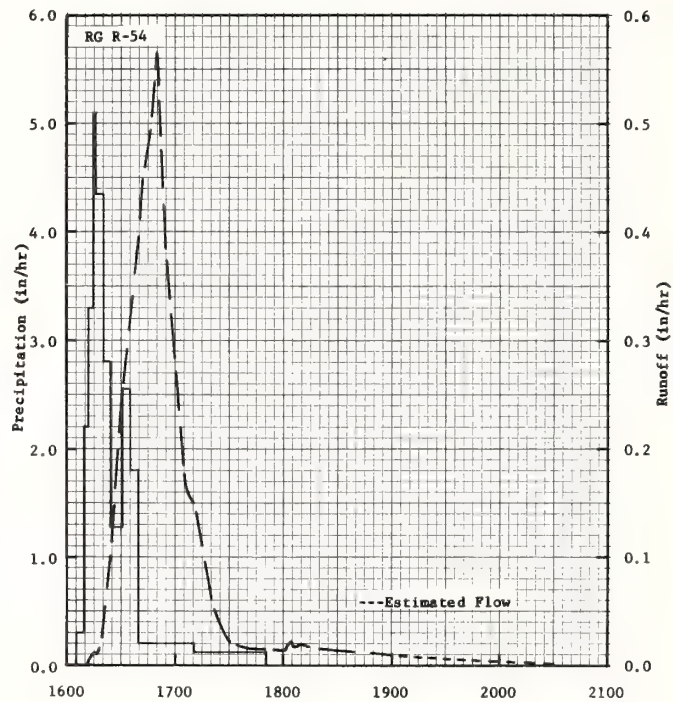
1965 SELECTED RUNOFF EVENT			TOMBSTONE, ARIZONA				WATERSHED 63.011				63.11
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)	
Event of September 4, 1965 <sup>1/</sup>											
8-8	RG R-51 .78	.0000	9-4	RG 1600	R-51 0.00	0.00	9-4	1607	.000	.0000	
8-9	.03	.0000		1603	0.80	0.04		1612	.000	.0000	
8-13	.16	.0000		1606	4.00	0.24		1616	.012	.0004	
8-16	.02	.0000		1609	4.00	0.44		1617	.010	.0006	
8-18	.11	.0118		1612	3.60	0.62		1620	.028	.0016	
8-22	.07	.0007		1615	2.60	0.75		1625	.114	.0075	
9-2	.51	.0337		1630	0.72	0.93		1630	.234	.0220	
9-3	.12	.0000		1648	0.27	1.01		1635	.302	.0443	
9-4	2/.39	.0000		1757	0.10	1.12		1640	.396	.0734	
8-2	RG R-54 .03	.0000	9-4	RG 1605	R-54 0.00	0.00		1643	.456	.0947	
8-8	.98	.0000		1609	0.30	0.02		1647	.493	.1263	
8-9	.11	.0000		1612	2.20	0.13		1650	.565	.1527	
8-13	.29	.0000		1614	3.30	0.24		1655	.383	.1922	
8-16	.04	.0000		1616	5.10	0.41		1700	.284	.2200	
8-18	.66	.0118		1620	4.35	0.70		1705	.177	.2392	
8-20	.13	.0000		1623	2.80	0.84		1707	.158	.2448	
8-22	.55	.0007		1631	1.28	1.01		1710	.151	.2525	
9-1	.04	.0000		1635	2.55	1.18		1720	.061	.2701	
9-2	1.19	.0337		1639	1.80	1.30		1730	.022	.2771	
9-3	.24	.0000		1711	0.21	1.41		1740	.016	.2803	
				1751	0.12	1.49		1745	.014	.2816	
								1750	.014	.2828	
								1802	.013	.2854	
								1803	.019	.2857	
								1804	.021	.2860	
								1805	.019	.2864	
								1806	.017	.2867	
								1807	.019	.2870	
								1810	.020	.2880	
								1811	.018	.2883	
								1815	.018	.2895	
								1820	.016	.2909	
								1830	.014	.2934	
								1900	.009E	.2993E	
								1930	.004E	.3027E	
								2000	.002E	.3042E	
								2030	.000E	.3046E	
								2100	.000E	.3047E	

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 2051.9. <sup>1/</sup> ISOHYETAL MAP ON P. 63.1-7. <sup>2/</sup> RAIN ENDED AT 1316.





July 17-18, 1965



September 4, 1965

TOMBSTONE, ARIZONA WATERSHED 63.011

TOMBSTONE, ARIZONA      WALNUT GULCH WATERSHED 63.015

**LOCATION:** Cochise County; three fourths of a mile east of Tombstone; Walnut Gulch, San Pedro River, Gila River, Colorado River Basin.

**AREA:** 9.24 sq. mi. (5912 ac.)      **SHAPE:** Roughly circular, diameter of 3.5 miles.

**SLOPES:** Not available.

**SOILS:** Boothill, a stony clay loam developed on andesite extrusions; calcareous throughout the profile; moderately permeable -- 15%. Cave, a gravelly sandy loam developed on outwash material from andesite extrusions; calcareous throughout the profile; moderately permeable -- 15%. Tombstone, a gravelly loam, calcareous throughout, moderately permeable surface and subsoil -- 43%. Tortgas, developed on limestone; calcareous surface horizon underlain by consolidated caliche -- 8%. The remaining 19% is made up of small bodies of five other moderately permeable soils.

**GEOLOGY:** This watershed is representative of the Basin and Range Province and is located in south part of 63.001 occupying 16.02 percent of its area. Quaternary and Tertiary alluvium of the Tombstone pediment occurs on 83 percent of the subarea (63.015). The alluvium is made up of permeable lensed and interbedded sand, gravel, conglomerate, caliche conglomerate, and some clay. Two series of conglomerate are recognized beneath the recent alluvium of the Tombstone pediment: A younger conglomerate whose bedding is nearly conformable to the pediment surface and probably considerably older than that surface, and an older Tertiary conglomerate lying unconformably beneath that. These conglomerates are known to persist to depths exceeding 1,200 feet. Topographic expression of the alluvium is that of low undulating hills dissected by present stream channels. Caliche conglomerates of this unit are fairly resistant to erosion and form steep cliffs of low relief in some of the present stream channels. In the east 13 percent of the watershed is made up of highly faulted and fractured Tertiary intrusive and extrusive igneous rocks, mostly volcanics. Extensive folded tuff beds are found underlying andesite-rhyolite flow material. Topographic expression is that of low rolling hills interrupted in places by dike-like ridges. In the south and southwest, thick sections of permian and carboniferous age limestones form low hills and cover 4 percent of the watershed. Numerous intrusive rhyolite dikes and sills invade the limestones and affect surface and subsurface drainage. See geologic map on page 63.1-4 of this volume.

Stratigraphy and Hydrogeology of Walnut Gulch Watershed 63.015

System	Formation and percent of area	Description
Quaternary & Tertiary	Recent alluvium 79%	Gravel, sand, and clay. This, and underlying conglomerates, are important water producers.
	Younger conglomerate    ≈    3%	Gravel, sand, conglomerate, caliche conglomerate, and clay, some boulders.
	Older conglomerate       ≈    1%	Gravel, sand, conglomerate, caliche conglomerate, and clay, some boulders.
Tertiary	S. O. volcanics       13%	Interbedded quartz latite tuffs, andesite-rhyolite flow, pyroclastic sandstone mudstones, and conglomerates. Not important as a water producer.
Permian Carboniferous	Naco limestone       4%	Light-tan to dark-blue limestone. Silica blebs in upper layers. Important water producer.

Source of data: General Geology of Central Cochise County, Arizona, by James Gilluly, U. S. Geological Survey, Professional Paper 281, 1956, and extended field studies by project staff.

**INSTRUMENTATION:** Precipitation: Measured by 11 recording gages with 24-hour charts.

**RUNOFF:** Critical depth flume (precalibrated), AD-35 analog strip chart water level recorder.

**WATERSHED CONDITIONS:** (Revision) Vegetation cover: Desert shrubs (whitethorn, creosote bush, tarbush) occupy 78 percent of the area with a crown spread of approximately 30 percent and an understory of grasses of less than 1 percent basal area. The remaining 22 percent of the area supports a grass cover (black grama, tobosa grass, blue grama, sideoats grama, and curly mesquite grass) of approximately 2 percent basal area.

**NOTES:** FOR WATERSHED TOPOGRAPHIC MAP SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB., 994, P. 63.1-2. FOR GEOLOGIC AND VEGETATION MAPS, SEE P. 63.1-4 AND 63.1-5 OF THIS VOLUME. WATERSHED 63.015, ACTIVATED JUNE 15, 1965, REPLACES WATERSHED 63.005. FLUME 63.015 WAS PLACED APPROXIMATELY 0.7 MILE DOWNSTREAM FROM FLUME 63.005 AND MEASURES RUNOFF FROM ESSENTIALLY THE SAME WATERSHED AS 63.005.

MONTHLY PRECIPITATION AND RUNOFF (inches)						TOMBSTONE, ARIZONA WATERSHED 63.015 AREA—5,912 ACRES (9.24 SQ. MILES)								63.15
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P 1/ Q	.87	.15	.25	.01	.16	.16 .00	3.77 .00	1.39 T	1.52 .07	.03 .00	.31 .00	3.15 .00	11.77 .07	
STA AVG P 2/ (1965) Q	.87	.15	.25	.01	.16	.16 .00	3.77 .00	1.39 T	1.52 .07	.03 .00	.31 .00	3.15 .00	11.77 .07	
MEAN P 3/ 68 YR	.84	.78	.62	.28	.18	.50	3.64	3.48	1.53	.68	.64	.85	14.02	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-4	.11	9-4	.05	9-4	.07	9-4	.07	9-4	.07	9-4	.07	9-4	.07	9-4	.07

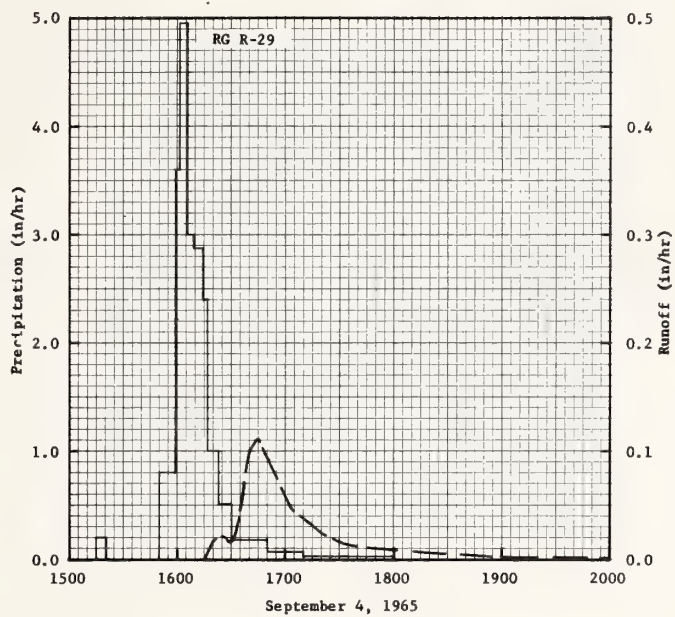
MAXIMUMS FOR PERIOD OF RECORD																
19 65 TO 1965	9-4 1965	.11	9-4 1965	.05	9-4 1965	.07	9-4 1965	.07	9-4 1965	.07	9-4 1965	.07	9-4 1965	.07	9-4 1965	.07

Notes: Monthly precipitation is arithmetic average of 11 rain gages on watershed. 2/ Precipitation records began January 1965; runoff records began June 1965 (beginning of runoff season) upon completion of flume with capacity of 8000 cfs. 3/ Mean P based on 68-yr. (1897-1964) U.S. Weather Bureau record period at Tombstone, Ariz.

1965 SELECTED RUNOFF EVENT						TOMBSTONE, ARIZONA WATERSHED 63.015								63.15
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)				
Event of September 4, 1965 4/														
	RG R-29		9-4	RG	R-29		9-4							
8-8	.29	.0000		1515	0.00	0.00		1610	.000	.0000				
8-9	.03	.0000		1521	0.20	0.02		1615	.000	.0000				
8-13	.40	.0000		1550	0.00	0.02		1620	.017	.0007				
8-16	.45	T		1559	0.80	0.14		1624	.021	.0020				
8-17	.02	.0000		1602	3.60	0.32		1629	.016	.0035				
8-18	.15	.0000		1606	4.95	0.65		1634	.044	.0061				
8-22	.16	.0000		1609	3.00	0.80		1637	.071	.0090				
8-30	.55	.0000		1614	2.88	1.04		1640	.100	.0132				
9-2	.07	.0000		1617	2.40	1.16		1645	.111	.0220				
9-3	.47	.0000		1623	1.00	1.26		1651	.092	.0321				
9-4	5/ .03	.0000		1630	0.51	1.32		1657	.069	.0402				
				1650	0.18	1.38		1703	.047	.0460				
				1709	0.06	1.40		1713	.033	.0527				
				1759	0.02	1.42		1723	.022	.0573				
	RG R-35		9-4	RG	R-35			1738	.013	.0616				
8-8	.26	.0000		1515	0.00	0.00		1758	.009	.0653				
8-9	.02	.0000		1518	1.00	0.05		1828	.005	.0686				
8-13	.49	.0000		1552	0.00	0.05		1858	.002	.0702				
8-16	.22	T		1558	0.90	0.14		1928	.001	.0711				
8-17	.05	.0000		1601	2.60	0.27		1958	.000	.0714				
8-22	.02	.0000		1605	2.40	0.43		2058	.000	.0718				
8-30	.47	.0000		1608	4.60	0.66		2158	.000	.0719				
9-2	.15	.0000		1611	4.80	0.90		2258	.000	.0719				
9-3	.18	.0000		1614	3.60	1.08	9-5	0028	.000	.0719				
9-4	6/ .05	.0000		1620	1.20	1.20								
				1634	0.39	1.29								
				1702	0.09	1.33								
				1802	0.03	1.36								

Watershed conditions: (Revision)  
Vegetation cover: Desert shrubs (whitethorn, creosote bush, tarbush) occupy 78 percent of the area with a crown spread of approximately 30% and an understory of grasses of less than 1% basal area. The remaining 22% of the area supports a grass cover (black grama, tobosa grass, blue grama, sideoats grama, and curly mesquite grass) of approximately 2% basal area.

NOTES: TO CONVERT RUNOFF TO IN/HR TO CFS, MULTIPLY BY 5961. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1960-61, USDA MISC. PUB. 994, P. 63.1-2. 4/ ISOHYETAL MAP ON P. 63.1-6. 5/ RAIN ENDED AT 1300. 6/ RAIN ENDED AT 1400.



TOMBSTONE, ARIZONA WATERSHED 63.015



MONTHLY PRECIPITATION AND RUNOFF (inches) 1/							SANTA ROSA, NEW MEXICO WATERSHED 64.001 AREA 42,880 ACRES (67 SQ. MILES)							64.01
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
P														
Q														
STA AVG P														
MEAN P 2/														
57 YR	.36	.45	.62	.81	1.74	1.42	2.36	2.44	1.47	1.20	.39	.54	13.80	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-12	.0173	5-12	.0148	5-12	.0215	5-12	.0260	5-12	.0277	5-12	.0744	5-12	.0807	5-12	.0807

MAXIMUMS FOR PERIOD OF RECORD 1/																
19	TO															
19																

NOTES: 1/ Precipitation and runoff data are being re-evaluated, and when re-evaluation is complete, the revised data will be reported. 2/ Mean P based on 57-yr (1908-64) U.S. Weather Bureau record period at Santa Rosa, New Mex.

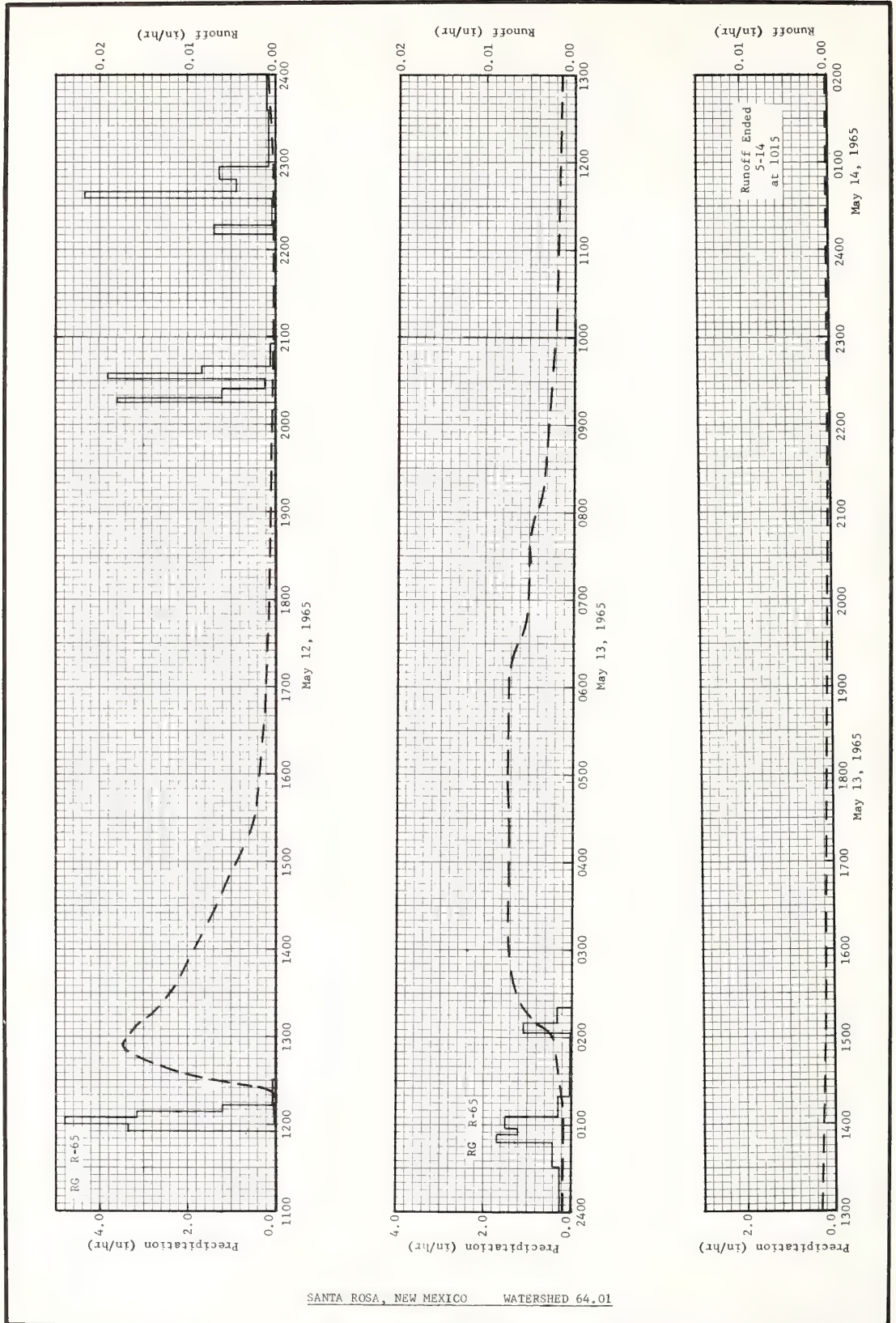
1965 SELECTED RUNOFF EVENT				SANTA ROSA, NEW MEXICO WATERSHED 64.001						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
			Event of May 12-14, 1965 3/							
	RG R-65		5-12	RG	R-65		5-12			
4-12	.02	.00		1155	.00	.00		1152	.0000	.00000
4-25	.22	.00		1200	3.36	.28		1200	.0000	.00000
4-26	.65	.00		1204	4.80	.60		1208	.0001	.00001
4-27	.15	.00		1208	3.15	.81		1217	.0001	.00002
				1213	1.20	.91		1221	.0002	.00003
				1231	.07	.93		1225	.0016	.00013
								1226	.0036	.00019
								1231	.0075	.00082
								1237	.0114	.00197
				2015	.00	.00		1240	.0130	.00262
				2018	3.60	.18		1246	.0155	.00417
				2024	1.20	.30		1250	.0171	.00531
				2032	.23	.33		1254	.0173	.00646
				2035	3.80	.52		1307	.0160	.00993
				2039	1.65	.63		1315	.0140	.01180
				2056	.11	.66		1331	.0120	.01499
				2211	.00	.66		1431	.0067	.02167
				2217	1.40	.80		1533	.0022	.02390
				2235	.07	.82		1638	.0012	.02515
				2239	4.35	1.11		1743	.0007	.02592
				2248	.87	1.24		1827	.0006	.02635
				2257	1.27	1.43		1937	.0004	.02680
				2336	.14	1.52		2025	.0002	.02693
								2134	.0001	.02704
				2400	.18	1.59				
			5-13	0032	.24	1.72		2214	.0001	.02708
				0048	.41	1.83		2219	.0001	.02709
				0053	1.68	1.97		2239	.0001	.02712
				0058	1.20	2.07		2252	.0001	.02715
								2309	.0003	.02723
				0106	1.50	2.27				
				0119	.28	2.33		2334	.0006	.02749
				0203	.01	2.34		2346	.0009	.02766
				0210	1.11	2.47		0004	.0009	.02793
				0221	.33	2.53	5-13	0054	.0008	.02863
								0116	.0009	.02896

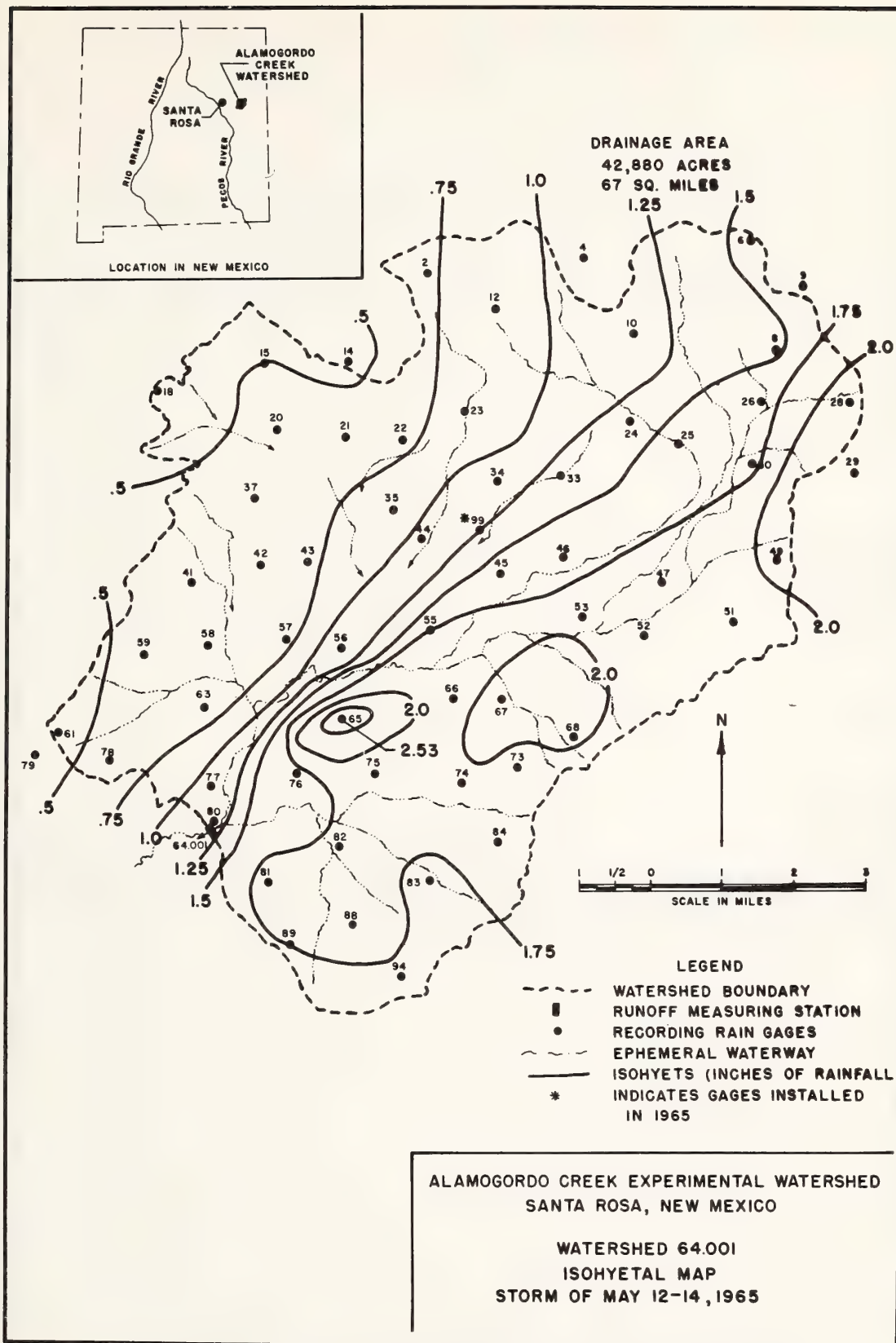
(Continued on next page)

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 43,240. CONTOUR MAP OF WATERSHED NOT AVAILABLE. 3/ ISOHYETAL MAP ON P. 64.1-4. RAINFALL OF 5/12/65 BEGINNING AT 1155 CONTRIBUTES SUBSTANTIALLY TOWARD RUNOFF, HOWEVER, IT IS NOT INCLUDED ON ISOHYETAL MAP.

1965 <b>SELECTED RUNOFF EVENT</b>			SANTA ROSA, NEW MEXICO				WATERSHED 64.001			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)
			<u>Event of May 12-14, 1965—Continued</u>							
							5-13	0121	.0011	.02905
								0142	.0016	.02960
								0201	.0021	.03026
								0209	.0040	.03079
								0235	.0065	.03362
								0300	.0073	.03666
								0330	.0073	.04030
								0400	.0073	.04395
								0433	.0074	.04800
								0451	.0074	.05021
								0456	.0074	.05083
								0608	.0072	.05950
								0621	.0067	.06096
								0637	.0058	.06251
								0738	.0050	.06756
								0807	.0038	.06940
								0825	.0032	.07037
								0904	.0027	.07214
								1011	.0020	.07439
								1500	.0010	.07928
							5-14	2100	.0002	.08016
								1015	.0000	.08065
								1630	.0000	.08067
								2300	.0000	.08067

NOTE: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 43,240.







MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-2 (AREA-115 ACRES)								57M-2
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	1/ P	.41	.07	.20	2.19	4.92	3.67	.94	1.30	1.20	.00	.16	.15	15.21
	Q	.00	.23	.00	.06	.21	.06	T	.00	.00	.00	.00	.00	.56
STA AV2/	P	.22	.25	.27	1.02	2.41	3.15	1.52	1.10	1.06	.50	.26	.22	11.98
(58-65)	Q	.01	.06	.12	.01	.05	.09	.05	.01	.01	.00	T	T	.41
MEAN P 3/														
58 YR		.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57

NOTES: Watershed conditions: 100% rangeland. Condition classes: excellent - 19%, good - 64%, fair - 17%. Degree of grazing - full. 1/ Precipitation from rain gage W-2A. 2/ Precipitation and runoff records began January 1958. 3/ Mean P based on 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.

1965 DAILY PRECIPITATION (inches)						NEWELL, SOUTH DAKOTA			WATERSHED W-2			57M-2	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1					.03	.26	.02						
2					.05								
3													
4					.02	.02		.20	.12				
5				.10	.29								
6													
7						.04	.40	.02	.17				
8			.01		.48								
9		.01	.03		.29		.04		.01				
10			.02	1.30		.01							
11				.19									
12	.02								.01		.12	.05	
13	.03								.03		.02		
14	.04	.01			.48	.20		.24	.01			.02	
15	.10							.19					
16			.06						.35				
17									.04				
18				.14		.57							
19							.25						
20		.02		.10		.10		.60					
21				.26	.07	.58							
22		.03			.25	.24	.10						
23	.07			.10	1.27	.05	.02	.03					
24					.88								
25					.21						.02		
26			.02		.07	.28							
27						.12			.06				
28	.08		.06		.11				.10				
29	.05					.52	.11		.30				
30	.01					.68		.02					
31	.01				.42							.08	
TOTAL	.41	.07	.20	2.19	4.92	3.67	.94	1.30	1.20		.16	.15	
STA AV	.22	.25	.27	1.02	2.41	3.15	1.52	1.10	1.06	.50	.26	.22	

NOTES: PRECIPITATION VALUES ARE FOR RAIN GAGE W-2A. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, SEPTEMBER 15, 16, NOVEMBER 1-DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 65.2-4.

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA			WATERSHED W-2		57H-2	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1						T	T					
2												
3												
4												
5					T							
6												
7							T					
8				.05	.01							
9					.02							
10				.01	.02							
11				T								
12												
13												
14					T							
15												
16												
17		.20										
18												
19												
20												
21						T						
22												
23				T	.06							
24					.10							
25												
26												
27		.03										
28												
29						.01						
30		-----				.05						
31		-----		-----	T	-----			-----		-----	
MEAN												
INCHES		.23		.06	.21	.06	T					

NOTES: DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND.

MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA								WATERSHED W-5		57M-5
						(AREA-46 ACRES)										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965-1/ P	.69	.15	.43	2.36	5.85	5.40	1.78	1.76	1.45	.00	.22	.47	20.56			
Q	.00	.09	.15	.03	.33	.20	.01	.00	.00	.00	.00	.00	.81			
STA AV <sup>2</sup> / P	.26	.27	.40	1.09	2.89	3.64	1.51	1.37	.91	.35	.19	.29	13.17			
(58-65) Q	.00	.02	.11	.01	.09	.22	.04	.13	T	.00	.00	.00	.62			
MEAN P <sup>3</sup> / 58 YR	.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57			

## NOTES:

Watershed conditions: 100% rangeland. Condition classes: excellent - 7%, good - 93%. Degree of grazing - full. Production of cover: 3000 pounds per acre of oven dry material. 1/ Precipitation from rain gage W-5A. 2/ Precipitation and runoff records began January 1958. 3/ Mean P based on 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.

1965 DAILY PRECIPITATION (inches)						NEWELL, SOUTH DAKOTA							WATERSHED W-5		57M-5	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1					.03	.24	.16									
2																
3			.05					.18	.01							
4						.09		.10								
5				.21	.29		.22									
6																
7				.02		.08			.16							
8			.03		1.04		.02									
9		.03	.05	.11	.11		.10		.01							
10			.01	1.01								.01				
11				.16			.85				.15	.29				
12	.01								.02		.02	.05				
13	.02							.40				.03				
14	.29	.01			1.07	.04		.04								
15								.18	.30							
16			.08						.21							
17				.16		1.72										
18							.25									
19																
20		.02		.05	.02	.08		.46								
21	.05			.14	.14	.40										
22	.09	.08			.25	.58	.02									
23		.01		.41	.89	.18	.03	.20								
24				.09	1.25						.02					
25					.38	.08		.15			.03					
26			.02		.07	.45		.05								
27	.04					.21										
28			.19		.16	.07			.06							
29	.10					.98			.68			.01				
30	.09					.20						.08				
31					.15											
TOTAL	.69	.15	.43	2.36	5.85	5.40	1.78	1.76	1.45		.22	.47				
STA AV	.26	.27	.40	1.09	2.89	3.64	1.51	1.37	.91	.35	.19	.29				

NOTES: PRECIPITATION VALUES ARE FOR RAIN GAGE W-5A. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, SEPTEMBER 15, 16, NOVEMBER 1-DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 65.5-4.

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA						
						WATERSHED W-5						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1				T			T					
2												
3												
4												
5												
6												
7												
8					.02							
9			T	.02	.08							
10												
11							.01					
12			T									
13												
14					.03							
15												
16												
17		.06				.06						
18						T						
19												
20												
21												
22						.01						
23					.02	T						
24					.13							
25					.05							
26		.01					T					
27		.02										
28												
29						.12						
30						.01						
31			.15									
MEAN												
INCHES		.09	.15	.03	.33	.20	.01					

NOTES:

DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND.



MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-7 (AREA-160 ACRES)								57M-7
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 <sup>1/</sup> P	.43	.12	.29	1.84	4.68	4.38	1.76	1.95	1.16	.00	.17	.44	17.22	
Q	.00	.17	.00	.17	.19	.06	.01	T	.00	.00	.00	.00	.60	
STA AV <sup>2/</sup> P	.24	.32	.40	1.09	2.77	3.51	1.63	1.45	.93	.37	.24	.30	13.25	
(58-65) Q	.00	.03	.10	.02	.04	.09	.05	.03	T	.00	.00	.00	.36	
MEAN <sup>3/</sup> P 58 YR	.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57	

NOTES: Watershed conditions: 100% rangeland. Condition classes: good - 82%, fair - 18%. Degree of grazing: full.  
<sup>1/</sup> Precipitation from rain gage W-7A. <sup>2/</sup> Precipitation and runoff records began January 1958. <sup>3/</sup> Mean P based on  
 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.

1965 DAILY PRECIPITATION (inches)						NEWELL, SOUTH DAKOTA			WATERSHED W-7			57M-7	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1					.03	.11	.08						
2													
3			.03					.22	.01				
4						.10	.02	.12					
5				.09	.32		.25	.02					
6									.16				
7				.02		.04							
8			.01		.76		.02						
9		.01	.03	.10	.14		.12		.01				
10			.01	.73								.01	
11				.10			.78				.12	.20	
12	.01								.02		.01	.09	
13	.02							.26				.04	
14	.19	.01			.61	.07		.02					
15								.27	.23				
16			.05						.10				
17				.16		1.37							
18							.23	.04					
19													
20		.01		.04	.03	.08		.40					
21	.04			.20	.12	.12							
22	.06	.08			.25	.68	.03						
23		.01		.38	.89	.20	.05	.43					
24				.02	1.03						.01		
25					.21	.08		.09			.03		
26			.02		.03	.30		.08					
27	.04					.22			.05				
28			.14		.16	.05			.06				
29	.02					.76	.18		.52			.01	
30	.05											.09	
31					.10	.20							
TOTAL	.43	.12	.29	1.84	4.68	4.38	1.76	1.95	1.16		.17	.44	
STA AV	.24	.32	.40	1.09	2.77	3.51	1.63	1.45	.93	.37	.24	.30	

NOTES: PRECIPITATION VALUES ARE FOR RAIN GAGE W-7A. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, SEPTEMBER 15, 16, NOVEMBER 1-DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 65.7-4.

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-7 57M-7						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1												
2												
3												
4												
5												
6												
7		.13		.16	.01							
8					.03							
9												
10												
11							.01					
12							T					
13				.01	.01							
14								T				
15												
16												
17						.01						
18												
19												
20												
21												
22							T					
23							T					
24					.09							
25					.05							
26												
27		.04										
28												
29						.04						
30		-----				.01			-----		-----	
31												
MEAN												
INCHES		.17		.17	.19	.06	.01	T				

NOTES: DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND.

MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-12 (AREA-90 ACRES) 57F-12							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 <sup>1/</sup> P	.39	.09	.17	1.12	6.06	3.38	1.84	1.47	1.76	.00	.20	.39	16.87
STA AV <sup>2/</sup> Q	.01	.11	.02	.01	3.14	.15	.01	.01	.01	.00	.00	.00	3.47
(58-65) Q	.25	.27	.37	1.17	2.94	3.75	1.74	.96	1.02	.43	.30	.26	13.46
MEAN P <sup>3/</sup>	T	.04	.29	.15	.93	.80	.16	.07	T	.00	.01	.01	2.46
58 YR	.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57

NOTES: Watershed conditions: 100% rangeland. Condition classes: good - 94%, fair - 6%. Degree of grazing: close.  
<sup>1/</sup> Precipitation from rain gage W-12A. <sup>2/</sup> Precipitation and runoff records began January 1958. <sup>3/</sup> Mean P based on 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.

1965	DAILY PRECIPITATION (inches)					NEWELL, SOUTH DAKOTA				WATERSHED W-12		57F-12
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1						.07						
2												
3					.03				.02			
4					.07	.10		.31				
5				.10	.20		.09	.62	.08			
6								.03	.12			
7						.27						
8					.66		.30					
9				.01	.87				.01			
10			.04	.11	.07							.02
11				.16			.03	.02			.12	.10
12				.02					.24			.17
13									.06			.06
14	.09	.03		.03	1.12	.18						
15								.08	.21			
16			.02						.15			
17			.06	.17		1.19					.06	
18							.22	.02				
19							.06					
20		.03		.10	.10	.04		.17				
21						.16			.02			
22	.06	.03	.01									
23				.32	1.22	.05	1.00	.06				
24					1.40	.15						
25								.12			.02	
26	.01		.01	.10	.10	.10			.05			
27						.06			.01			
28	.17		.03		.06	.06			.10			
29	.04					.87	.14		.69			.02
30	.01					.08		.04				.02
31	.01				.16							
TOTAL	.39	.09	.17	1.12	6.06	3.38	1.84	1.47	1.76		.20	.39
STA AV	.25	.27	.37	1.17	2.94	3.75	1.74	.96	1.02	.43	.30	.26

NOTES: PRECIPITATION VALUES ARE FOR RAIN GAGE W-12A. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, SEPTEMBER 15, 16, NOVEMBER 1-DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 65.12-4.

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA			WATERSHED W-12		57F-12	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1												
2												
3												
4												
5								.01				
6												
7												
8					.05							
9					.08							
10				T	.57							
11				.01	.12							
12					.01							
13												
14	T				.43							
15					.01							
16	.01								.01			
17		.09				.09						
18												
19												
20												
21						.01						
22												
23					.39		.01					
24					1.48							
25												
26												
27		.02										
28												
29						.05						
30		-----	.01									
31		-----	.01	-----		-----			-----		-----	
MEAN												
INCHES	.01	.11	.02	.01	3.14	.15	.01	.01	.01			

NOTES: DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND. SPILLWAY FLOW DURING MAY.



MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-13 (AREA-160 ACRES)								57F-13
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	1/ P	.42	.14	.16	1.29	5.71	2.49	.62	2.33	1.24	.00	.24	.36	15.00
	Q	.00	.09	.02	T	1.38	.00	.00	.01	.00	.00	.00	.00	1.50
STA AV	2/ P	.25	.27	.34	.92	2.88	3.41	1.32	1.07	.86	.40	.27	.29	12.28
(58-65)	Q	.00	.02	.15	.02	.36	.36	T	T	.00	.00	T	.00	.91
MEAN	P 3/													
58 YR		.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57
NOTES: Watershed conditions: 100% rangeland. Condition classes: excellent - 8%, good - 67%, fair - 25%. Degree of grazing: full. 1/ Thiessen weighted precipitation from gages W-13B and W-13C. 2/ Precipitation and runoff records began January 1958. 3/ Mean P based on 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.														
1965 DAILY PRECIPITATION (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-13								57F-13
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1						.24								
2					.02									
3														
4					.10	.04	.08	1.17	.02					
5				.17	.77									
6														
7						.10			.11					
8			.05		1.15									
9				.10	.28		.03		.01					
10				.15									.01	
11				.14		.03	.02				.17	.19		
12				.02					.08			.07		
13	.02											.04		
14	.18	.06												
15			.05		.75			.06	.01					
16			.02			.02			.23					
17				.11		1.08			.10					
18							.11	.03			.03			
19							.17							
20				.07	.03			.70						
21						.07			.01					
22		.08				.19	.03							
23	.05			.53	.88	.02	.07	.02						
24					1.00	.12					.01			
25					.13			.30			.03			
26	.01		.01		.07				.01					
27						.22			.02					
28	.10		.03		.12	.02			.05					
29	.04					.34	.09		.59				.01	
30	.01						.02	.05					.04	
31	.01				.41									
TOTAL	.42	.14	.16	1.29	5.71	2.49	.62	2.33	1.24		.24	.36		
STA AV	.25	.27	.34	.92	2.88	3.41	1.32	1.07	.86	.40	.27	.29		
NOTES: THIESSEN WEIGHTED PRECIPITATION USING RAIN GAGES W-13B AND W-13C. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, NOVEMBER 1 - DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945. P. 65.13-4.														

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA			WATERSHED W-13		57F-13	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1												
2												
3												
4								.01				
5					.02							
6												
7					.05							
8					.38							
9					.01							
10												
11				T								
12												
13												
14					.16							
15					.01							
16												
17												
18		.05										
19												
20												
21												
22												
23												
24					.41							
25					.34							
26												
27		.04										
28												
29												
30			T									
31			.02									
MEAN												
INCHES		.09	.02	T	1.38			.01				
NOTES: DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND.												

MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-14 (AREA-35 ACRES)								57F-14
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	1/ P	.62	.09	.18	1.57	5.11	2.53	1.59	1.32	1.41	.00	.35	.38	15.15
	Q	.06	.03	.00	.01	1.15	.01	T	.00	.02	.00	.00	.00	1.28
STA AV	2/ P	.31	.29	.39	1.51	2.89	3.53	1.97	.95	.89	.49	.34	.31	13.87
(58-65)	Q	.01	.04	.19	.07	.32	.43	.18	.03	.01	T	.01	T	1.29
MEAN	3/													
58 YR		.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57
NOTES: Watershed conditions: 100% rangeland. Condition classes: good - 54%, fair - 46%. Degree of grazing: full. 1/ Precipitation from rain gage W-14A. 2/ Precipitation and runoff records began January 1958. 3/ Mean P based on 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.														
1965 DAILY PRECIPITATION (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-14 57F-14								
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
1					.03	.03								
2														
3									.03					
4							.06							
5				.42	.16	.12		.35						
6						.01								
7						.05			.10					
8			.01		1.37		.22							
9		.01	.03	.01	.20				.05					
10			.01	.20									.05	
11				.30		.02					.20	.28		
12									.11			.04		
13						.02						.01		
14	.20			.04	.61	.19	.01							
15	.02							.12	.08					
16			.12						.22					
17				.05		1.32					.07			
18							.83							
19														
20		.01		.14	.20			.16						
21									.01					
22		.03			.04	.32								
23	.15			.33	1.05	.11	.02	.37						
24				.03	1.25	.15	.41	.02						
25					.06			.24			.08			
26			.01	.03	.09									
27				.02					.03					
28	.16	.04			.03				.01					
29	.05								.10					
30	.02					.10	.04		.67					
31	.02				.02	.09		.06						
TOTAL	.62	.09	.18	1.57	5.11	2.53	1.59	1.32	1.41		.35	.38		
STA AV	.31	.29	.39	1.51	2.89	3.53	1.97	.95	.89	.49	.34	.31		
NOTES: PRECIPITATION VALUES ARE FOR RAIN GAGE W-14A. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, SEPTEMBER 15, 16, NOVEMBER 1 - DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 65.14-4.														

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA			WATERSHED W-14		57F-14	
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1												
2												
3												
4												
5					T							
6												
7												
8					.02							
9					.07							
10					.33							
11					.01							
12												
13												
14					.19							
15					.01							
16									.01			
17	.06					.01						
18							T					
19												
20				.01								
21												
22												
23					.06							
24					.46							
25												
26												
27		.03										
28												
29									.01			
30												
31												
MEAN												
INCHES	.06	.03		.01	1.15	.01	T		.02			

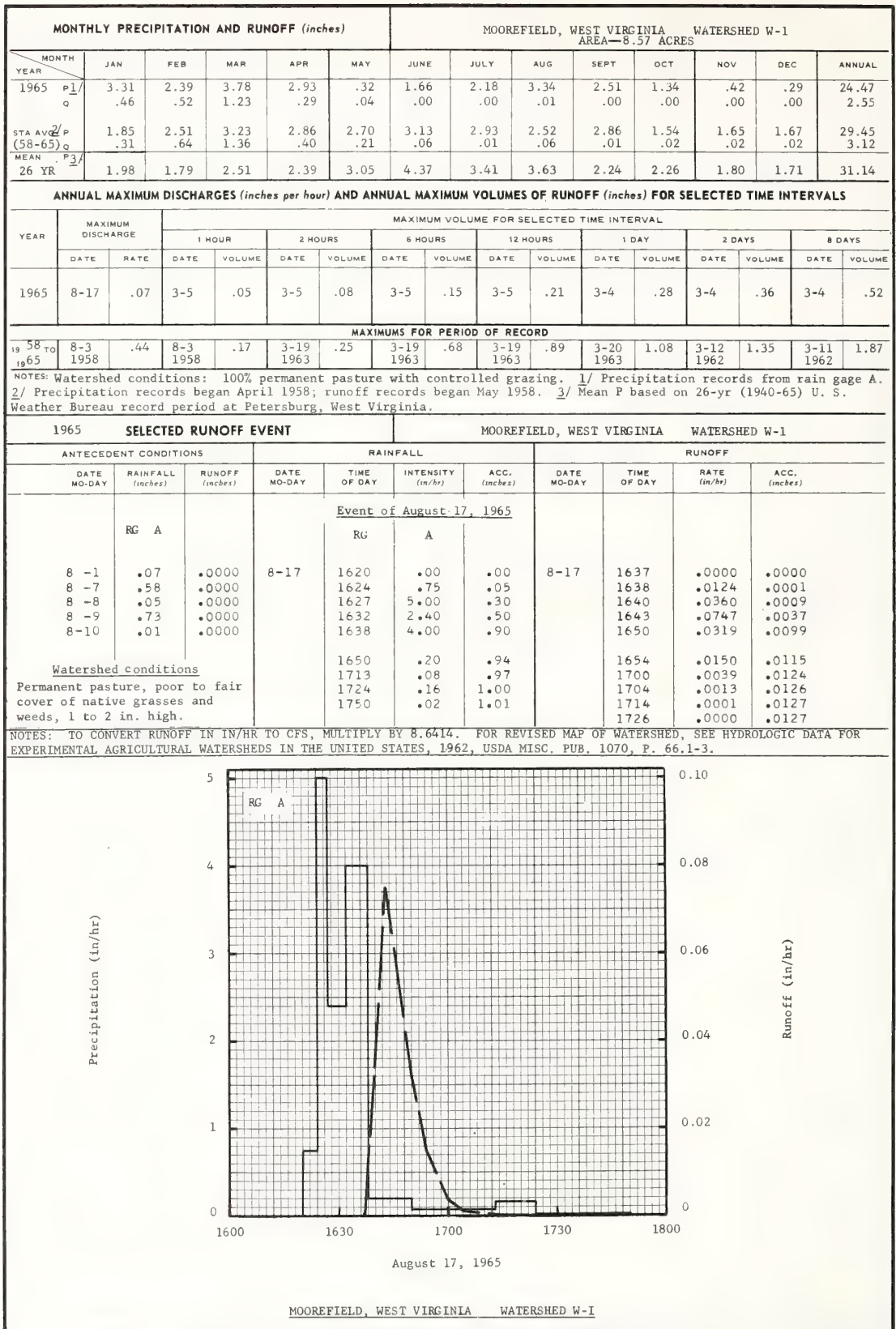
NOTES:

DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND. SPILLWAY FLOW DURING MAY.



MONTHLY PRECIPITATION AND RUNOFF (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-15 (AREA-115 ACRES)									57F-15
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965	1/ P	.52	.12	.12	1.24	5.07	2.48	1.41	1.09	1.33	.00	.29	.30	13.97	
	2/ Q	.00	.00	.01	T	1.60	.01	T	T	.01	.00	.00	.00	1.63	
	STA AV	.39	.30	.44	1.55	3.02	3.56	2.07	.95	.92	.52	.39	.33	14.44	
	(58-65) Q	.00	T	.10	.10	.41	.36	.21	.02	.01	T	.01	.00	1.22	
	MEAN P														
	58 YR	.42	.37	.74	1.64	2.74	3.03	2.12	1.36	1.27	.99	.51	.38	15.57	
NOTES: Watershed conditions: 100% rangeland. Condition classes: good - 41%, fair - 59%. Degree of grazing: full. 1/ Precipitation from rain gage W-15A. 2/ Precipitation and runoff records began January 1958. 3/ Mean P based on 58-yr (1908-1965) U. S. Weather Bureau record period at Newell, S. D.															
1965 DAILY PRECIPITATION (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-15 57F-15									
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC			
1					.02	.05									
2															
3															
4															
5				.21	.11	.10	.04	.22							
6						.01									
7						.08			.10						
8			.01		1.42		.12								
9		.01	.03	.01	.22				.06						
10			.01	.16									.05		
11				.24		.02			.11		.14	.15	.09	.01	
12															
13						.02									
14	.10			.02	.61	.20	.01								
15	.02							.08	.13						
16			.06						.10						
17				.07		1.39					.08				
18							.73								
19															
20		.01		.12	.19			.14							
21						.22			.01						
22		.06			.03		.02								
23	.15			.33	.97	.06	.45	.26							
24				.03	1.30	.11		.02							
25					.06			.33			.07				
26			.01	.03	.09				.03						
27				.02					.01						
28	.16	.04			.03				.11						
29	.05					.17	.04		.67						
30	.02					.05		.04							
31	.02				.02										
TOTAL	.52	.12	.12	1.24	5.07	2.48	1.41	1.09	1.33		.29	.30			
STA AV	.39	.30	.44	1.55	3.02	3.56	2.07	.95	.92	.52	.39	.33			
NOTES: PRECIPITATION VALUES ARE FOR RAIN GAGE W-15A. SNOW JANUARY 1-APRIL 8, MAY 7, 8, 26, SEPTEMBER 15, 16, NOVEMBER 1 - DECEMBER 31. RAIN AND SNOW MIXED APRIL 9-25; ALL OTHER PRECIPITATION IS RAIN. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 65.15-4.															

1965 MEAN DAILY DISCHARGE (inches)						NEWELL, SOUTH DAKOTA WATERSHED W-15 57F-15						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1												
2												
3												
4												
5								T				
6												
7					.01							
8					.10							
9					.25							
10				T								
11				T	T							
12												
13												
14					.16							
15												
16									.01			
17						.01						
18							T					
19												
20												
21												
22												
23				T	.04							
24					.82							
25					.22			T				
26												
27												
28									T			
29												
30		-----										
31		-----	.01	-----		-----			-----		-----	
MEAN												
INCHES			.01	T	1.60	.01	T	T	.01			
NOTES: DISCHARGE RECORD OBTAINED BY A-35 RECORDER ON POND. SPILLWAY FLOW DURING MAY.												



MONTHLY PRECIPITATION AND RUNOFF (inches)						MOOREFIELD, WEST VIRGINIA WATERSHED W-2 AREA—9.73 ACRES							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	3.31	2.39	3.78	2.93	.32	1.66	2.18	3.34	2.51	1.34	.42	.29	24.47
1965	.72	.44	1.19	.25	T	.00	.00	.02	.00	.00	.00	.00	2.62
STA AVG (58-65)	1.85	2.51	3.23	2.86	2.70	3.13	2.93	2.52	2.86	1.54	1.65	1.67	29.45
MEAN	.41	.64	1.37	.45	.30	.08	.03	.08	.04	.04	.03	.07	3.54
26 YR	1.98	1.79	2.51	2.39	3.05	4.37	3.41	3.63	2.24	2.26	1.80	1.71	31.14

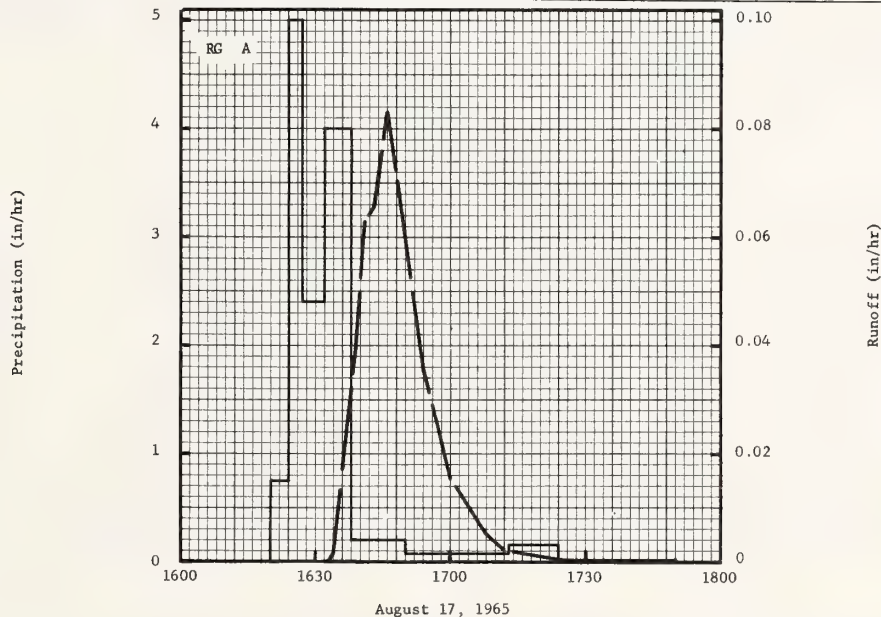
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-5	.11	3-5	.09	3-4	.15	3-4	.28	3-4	.35	3-4	.42	3-4	.49	1-19	.57

MAXIMUMS FOR PERIOD OF RECORD																
19 58 TO	8-3	.76	8-3	.34	8-3	.38	3-19	.82	3-20	1.05	3-20	1.21	3-12	1.44	3-20	2.02
19 65	1958		1958		1958		1963		1963		1963		1962		1963	

NOTES: Watershed conditions: 100% permanent pasture with controlled grazing. 1/ Precipitation records from rain gage A. 2/ Precipitation and runoff records began April 1958. 3/ Mean P based on 26-yr (1940-65) U. S. Weather Bureau record period at Petersburg, West Virginia.

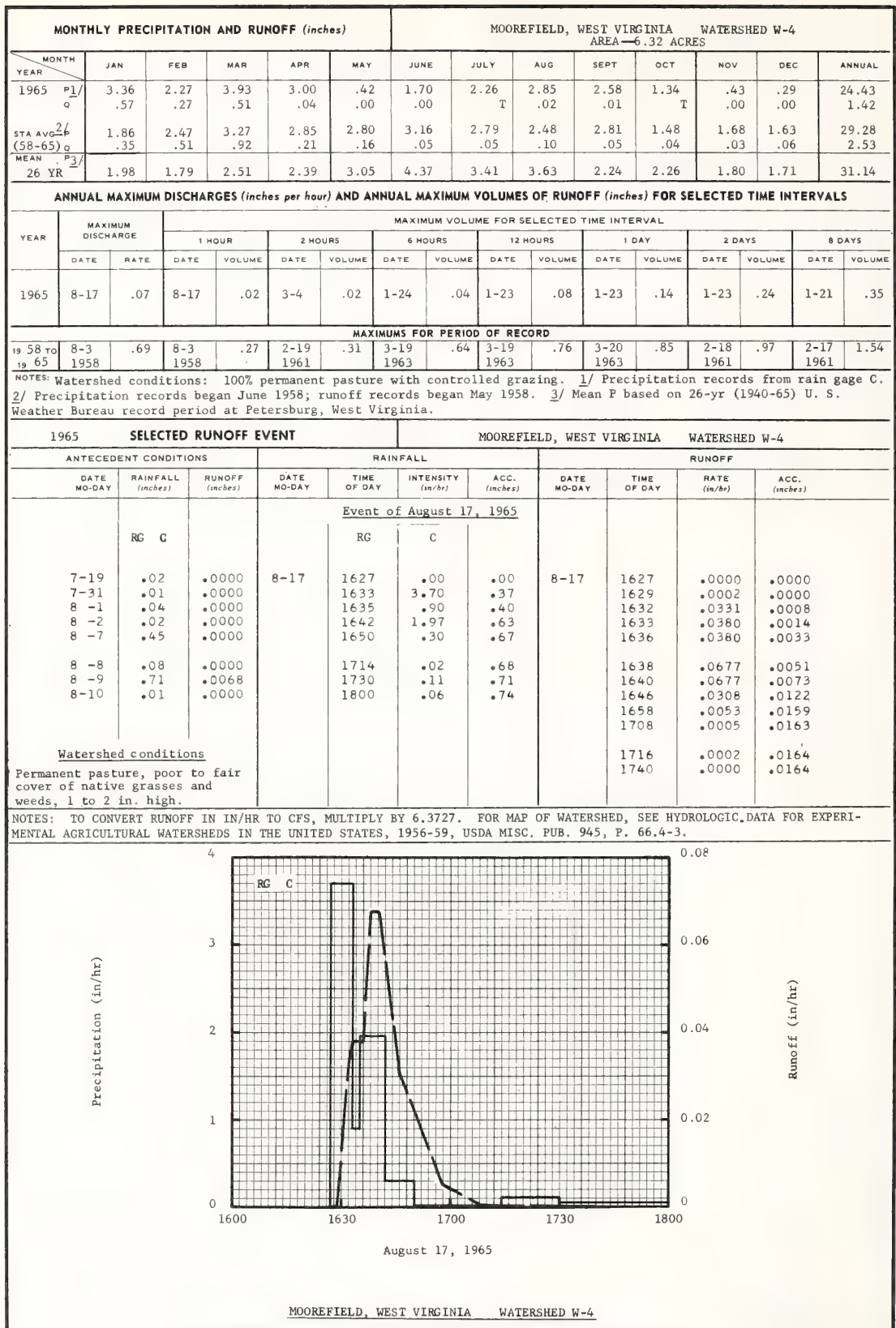
1965 SELECTED RUNOFF EVENT						MOOREFIELD, WEST VIRGINIA WATERSHED W-2					
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)	
	RG A			Event of August 17, 1965							
				RG	A						
8 -1	.07	.0000	8-17	1620	.00	.00	8-17	1633	.0000	.0000	
8 -7	.58	.0000		1624	.75	.05		1634	.0015	.0015	
8 -8	.05	.0000		1627	5.00	.30		1639	.0397	.0017	
8 -9	.73	.0000		1632	2.40	.50		1641	.0632	.0034	
8-10	.01	.0000		1638	4.00	.90		1643	.0658	.0056	
				1650	.20	.94		1646	.0831	.0093	
<u>Watershed conditions</u>				1713	.08	.97		1654	.0356	.0172	
Permanent pasture, poor to fair				1724	.16	1.00		1700	.0158	.0198	
cover of native grasses and				1750	.02	1.01		1708	.0051	.0212	
weeds, 1 to 2 in. high.								1712	.0021	.0214	
								1724	.0003	.0217	
								1736	.0000	.0217	

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 9.8111. FOR REVISED MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 66.2-3.

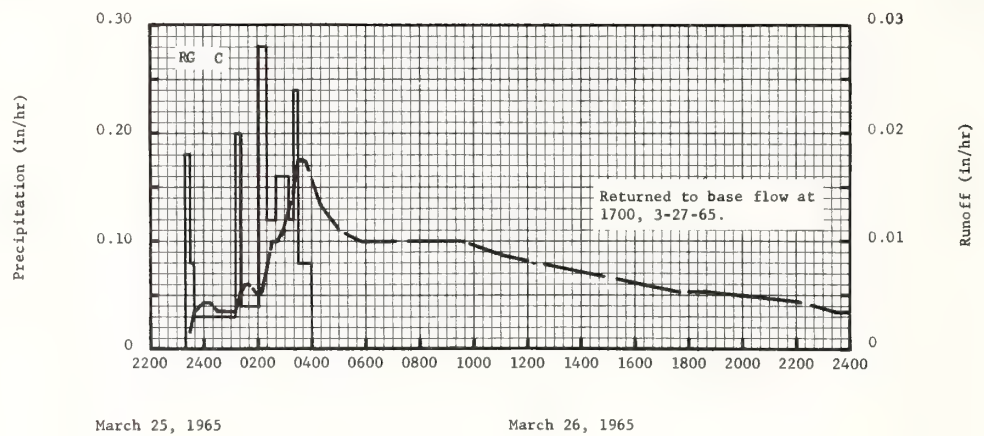


MOOREFIELD, WEST VIRGINIA WATERSHED W-2





MONTHLY PRECIPITATION AND RUNOFF (inches)						MOOREFIELD, WEST VIRGINIA WATERSHED W-5 AREA—9.55 ACRES										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> Q	3.36 .81	2.27 .40	3.93 .95	3.00 .09	.42 T	1.70 .00	2.26 .00	2.85 T	2.58 .00	1.34 .00	.43 .00	.29 .00	24.43 2.25			
STA AV <sub>2</sub> /P (58-65) <sub>Q</sub>	1.86 .48	2.47 .80	3.27 1.40	2.85 .40	2.80 .26	3.16 .06	2.79 .03	2.48 .07	2.81 .02	1.48 .04	1.68 .04	1.63 .07	29.28 3.67			
MEAN P <sub>3</sub> 26 YR	1.98	1.79	2.51	2.39	3.05	4.37	3.41	3.63	2.24	2.26	1.80	1.71	31.14			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	3-5	.03	3-5	.02	3-5	.04	3-5	.11	3-5	.19	1-23	.29	1-23	.47	1-22	.68
MAXIMUMS FOR PERIOD OF RECORD																
19 58 TO 1965	8-3 1958	.65	8-3 1958	.27	8-3 1958	.31	3-19 1963	.70	3-19 1963	.95	3-20 1963	1.14	2-18 1961	1.39	2-17 1961	2.21
NOTES: Watershed conditions: 100% permanent pasture with controlled grazing. 1/ Precipitation records from rain gage C. 2/ Precipitation records began June 1958; runoff records began May 1958. 3/ Mean P based on 26-yr (1940-65) U. S. Weather Bureau record period at Petersburg, West Virginia.																
1965 SELECTED RUNOFF EVENT						MOOREFIELD, WEST VIRGINIA WATERSHED W-5										
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF									
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (in/hr)	ACC. (inches)						
	RG C			Event of March 25-27, 1965												
				RG	C											
2-24	4/.07	.0000	3-25	2320	.00	.00	3-25	2328	.0016	.0000						
2-25	.78	.0311		2330	.18	.03		2340	.0035	.0005						
2-26	.00	.0063		2400	.08	.07		2400	.0043	.0018						
2-27	.00	.0025	3-26	0110	.03	.11	3-26	0012	.0043	.0027						
2-28	.00	.0091		0122	.20	.15		0030	.0035	.0038						
3-1	.00	.0025		0203	.04	.18		0110	.0035	.0062						
3-2	.06	.0025		0220	.28	.26		0124	.0052	.0072						
3-3	.08	.0025		0240	.12	.30		0130	.0060	.0078						
3-4	.75	.0208		0310	.16	.38		0140	.0060	.0088						
3-5	.48	.2812		0320	.12	.40		0156	.0052	.0103						
3-6	.00	.0926		0330	.24	.44		0208	.0052	.0113						
3-7	.00	.0422		0400	.08	.48		0226	.0089	.0134						
3-8	.00	.0235						0230	.0100	.0140						
3-9	.00	.0174						0242	.0100	.0160						
3-10	.00	.0174						0300	.0111	.0192						
3-11	.00	.0125						0320	.0147	.0235						
3-12	.00	.0075						0330	.0174	.0262						
3-13	.00	.0050						0346	.0174	.0308						
3-14	.01	.0005						0420	.0135	.0396						
3-15	.02	.0002						0500	.0111	.0478						
3-17	.76	.0000						0550	.0100	.0566						
3-18	.02	.0241						0930	.0100	.0931						
3-19	.00	.0124						1050	.0089	.1057						
3-20	.18	.0075						1740	.0052	.1540						
3-21	.00	.0097						1840	.0052	.1592						
3-22	.00	.0025						2210	.0043	.1757						
3-23	.07	.0025						2330	.0035	.1809						
3-24	.38	.0052						2400	.0035	.1827						
3-25	5/.38	6/.0547					3-27	0130	.0035	.1880						
								0700	.0022	.2037						
Watershed conditions										1300	.0022	.2168				
Permanent pasture, dormant, poor cover.										1700	7/.0016	.2242				
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 9.6296. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1956-59, USDA MISC. PUB. 945, P. 66.5-3. 4/ 2130 TO 2400. 5/ .21 IN. FROM 0001 TO 0300 AND .17 IN. FROM 0420 TO 1100. 6/ PRIOR TO 2328. 7/ RETURNED TO BASE FLOW.																



MOOREFIELD, WEST VIRGINIA WATERSHED W-5

MONTHLY PRECIPITATION AND RUNOFF (inches)						REYNOLDS, IDAHO AREA—57,700 ACRES (90.2 SQ. MILES)										WATERSHED W-1 (68 036068)										
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL													
1965	3.62	.57	.19	1.61	2.37	1.60	.50	2.34	.40	.34	1.41	.72	15.67													
	1.591	.828	.389	1.075	1.195	.370	.071	.109	.038	.056	.064	.048	5.835													
STA AVG	2.77	1.05	.71	1.61	1.76	2.26	.20	1.05	.41	.61	2.50	2.19	17.12													
(63-65)	.637	.472	.256	.719	.717	.351	.047	.041	.016	.025	.056	.500	3.837													
MEAN																										
26 YR	1.32	1.33	1.32	1.16	1.29	.89	.21	.16	.39	.84	1.20	1.32	11.43													
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																										
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL																							
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS											
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME										
1965	1-28	.019	1-28	.019	1-28	.037	1-28	.099	1-28	.184	1-28	.321	1-28	.640	1-28	1.313										
MAXIMUMS FOR PERIOD OF RECORD																										
1963 TO 12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	12-23	1-28	1-28										
1965	1964	.065	1964	.064	1964	.125	1964	.270	1964	.327	1964	.453	1964	.721	1965	1.313										
Notes: Watershed conditions: Predominately sagebrush rangeland, 95%; small stands of forest, 2%; permanent fields of flood irrigated alfalfa, 3%. 1/ Precipitation data based on Thiessen weighted average for 20 gages of a master rain gage network of 92 gages. 2/ Mean P based on 26-yr (1939-1964) U.S. Weather Bureau record period at Boise, Idaho; 50 miles NE of watershed.																										
1965 DAILY AIR TEMPERATURE (degrees F)						REYNOLDS, IDAHO WATERSHED W-1 (68 036068)																				
DAY	JAN		FEB 3/		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC			
1	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN		
2	28	4	37	21	34	16	61	42	66	36	63	44	82	54	--	--	84	39	74	38	67	28	39	14		
3	32	5	36	19	41	16	50	29	50	30	71	43	76	47	92	54	81	48	78	39	67	33	39	15		
4	40	25	46	25	43	15	52	23	56	30	77	48	80	48	84	52	76	56	77	39	68	32	48	24		
5	40	22	56	26	47	20	56	30	57	32	78	49	86	50	80	48	68	37	83	42	67	40	56	22		
6	47	34	49	34	50	21	57	28	48	22	74	44	82	56	83	49	68	44	85	53	69	33	59	27		
7	44	32	45	22	51	21	52	38	44	28	80	47	82	50	84	49	61	42	69	36	60	31	56	21		
8	42	17	39	19	54	23	50	33	52	31	83	48	90	56	85	51	72	44	76	42	64	29	50	19		
9	28	15	44	26	56	22	54	31	58	38	79	48	90	55	94	60	63	47	74	38	59	33	51	19		
10	33	20	38	19	50	26	49	31	59	32	80	58	87	58	93	64	69	46	85	43	58	34	45	21		
11	34	23	30	16	49	24	44	28	66	33	82	51	82	54	90	63	75	53	80	40	54	26	48	25		
12	38	20	31	12	50	19	51	32	72	35	84	48	77	48	89	56	74	44	74	38	57	26	47	29		
13	36	13	38	16	41	24	55	29	75	38	91	50	84	41	85	60	70	43	75	35	49	34	42	22		
14	35	10	40	29	49	19	62	38	72	43	67	41	72	39	73	45	69	40	74	31	45	36	39	24		
15	36	14	38	25	52	25	61	38	67	42	63	40	84	47	75	44	69	42	68	34	60	42	40	23		
16	37	13	--	--	40	21	66	38	75	40	60	39	93	54	81	58	74	55	73	37	46	37	30	20		
17	28	11	--	--	51	33	55	36	66	40	56	46	87	54	84	55	68	36	50	29	56	30	30	5		
18	25	12	--	--	41	22	48	31	64	30	60	39	92	65	85	55	46	26	51	30	53	31	34	5		
19	30	15	--	--	28	02	55	29	67	29	69	50	91	65	87	55	46	24	58	30	59	39	28	4		
20	26	16	--	--	35	04	68	39	72	39	68	42	84	56	78	55	50	26	64	37	57	35	29	5		
21	26	20	--	--	44	13	65	50	63	44	77	46	88	64	82	49	68	41	56	28	50	26	33	4		
22	37	22	--	--	58	20	62	46	57	45	80	49	85	46	71	48	62	42	60	29	48	33	33	5		
23	36	21	--	--	48	28	54	43	57	43	83	49	75	39	72	48	74	42	66	29	50	30	34	7		
24	41	25	--	--	37	16	62	40	46	40	81	54	73	44	70	47	70	40	68	30	54	33	32	9		
25	40	26	--	--	30	13	57	42	57	39	85	48	81	47	72	46	64	33	71	33	49	29	32	6		
26	33	26	52	20	37	12	61	39	63	41	77	47	88	56	78	48	68	36	70	31	45	26	43	19		
27	39	25	59	27	45	26	63	37	66	43	71	45	91	60	71	44	72	40	69	30	39	26	32	11		
28	42	26	50	31	47	27	68	36	73	41	69	36	84	50	71	46	72	48	69	31	37	20	36	9		
29	42	37	39	24	44	17	70	42	78	43	64	38	87	56	80	51	62	36	68	35	39	14	46	22		
30	47	38	--	--	60	22	71	46	80	50	74	44	89	56	64	37	63	35	66	34	40	13	55	32		
31	51	44	--	--	67	32	73	44	69	44	76	45	92	60	63	36	68	38	69	33	43	13	42	31		
AV.	37	21	--	--	47	20	58	36	63	38	74	46	85	52	79	50	68	41	70	35	54	30	41	17		
MEAN	29.0	--	--	--	33.5	47.4	50.4	59.9	68.5	64.8	54.1	52.6	41.6	28.9												
STA AV	35	16	44	26	47	25	56	30	66	40	73	46	85	49	82	48	77	42	66	34	51	27	41	21	21	
NOTES: TEMP DATA ARE BASED ON REYNOLDS CLIMATOLOGICAL STATION, PUBLISHED IN U.S. WEATHER BUREAU CLIMATOLOGICAL DATA FOR IDAHO, VOL 68. STA AV BASED ON RECORDS FROM JAN. 1962 THROUGH DEC. 1964. 3/ RECORD MISSING MORE THAN 10 DAYS IN FEB..																										



1965 DAILY PRECIPITATION (inches)						REYNOLDS, IDAHC WATERSHED W-1 (68 036068)						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.00	.01	.00	.01	.00	.00	.41	.02	.00	.00	.00	.00
2	.03	.01	.00	.01	.00	.00	.00	.21	.00	.00	.00	.00
3	.59	.00	.00	.00	.00	.00	.03	.26	.00	.00	.00	.00
4	.18	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00
5	.01	.00	.00	.00	.07	.00	.00	.00	.00	.02	.00	.00
6	.15	.00	.00	.03	.02	.00	.00	.00	.00	.00	.00	.00
7	.11	.00	.00	.02	.00	.00	.00	.00	.06	.00	.00	.00
8	.05	.06	.00	.00	.00	.00	.03	.00	.13	.00	.00	.00
9	.04	.02	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00
10	.18	.00	.00	.10	.00	.00	.00	.02	.00	.00	.10	.03
11	.07	.00	.00	.00	.00	.00	.00	.26	.00	.00	.06	.00
12	.00	.00	.00	.00	.00	.34	.00	.32	.00	.00	.22	.00
13	.00	.22	.00	.00	.00	.04	.00	.00	.00	.00	.12	.00
14	.00	.06	.00	.00	.00	.17	.00	.01	.00	.25	.47	.05
15	.00	.00	.00	.00	.00	.04	.00	.00	.05	.03	.00	.02
16	.00	.00	.00	.30	.00	.33	.00	.00	.15	.00	.01	.00
17	.00	.00	.00	.13	.00	.00	.00	.00	.01	.00	.09	.00
18	.00	.00	.00	.28	.00	.00	.01	.01	.00	.00	.02	.00
19	.00	.00	.00	.06	.00	.00	.00	.17	.00	.04	.00	.00
20	.00	.00	.00	.02	.00	.00	.00	.49	.00	.00	.05	.00
21	.15	.00	.00	.00	.37	.00	.00	.00	.00	.00	.00	.00
22	.00	.04	.00	.23	1.06	.00	.00	.44	.00	.00	.00	.00
23	.61	.00	.00	.00	.71	.01	.00	.13	.00	.00	.10	.00
24	.12	.00	.00	.06	.09	.00	.00	.00	.00	.00	.09	.22
25	.07	.00	.01	.00	.00	.27	.00	.00	.00	.00	.01	.06
26	.04	.00	.14	.00	.00	.40	.02	.00	.00	.00	.07	.00
27	.24	.15	.04	.00	.00	.00	.00	.00	.00	.00	.01	.01
28	1.53	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00	.09
29	.29	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.04
30	.05	-----	.00	.15	.00	.00	.00	.00	.00	.00	.00	.04
31	.01	-----	.00	-----	.00	-----	.00	.00	-----	.00	-----	.16
TOTAL	3.62	.57	.19	1.61	2.37	1.60	.50	2.34	.40	.34	1.41	.72
STA AV	1/ 2.77	1.05	.71	1.61	1.76	2.26	.20	1.05	.41	.61	2.50	2.19

NOTES: PRECIPITATION VALUES ARE BASED ON THIESSEN WEIGHTED AVERAGES FOR 20 GAGES OF A MASTER RAIN GAGE NETWORK OF 92 GAGES. 1/ STA AV BASED ON THIESSEN WEIGHTED AVERAGES FOR 20 GAGES FOR RECORD PERIOD 1963-65.

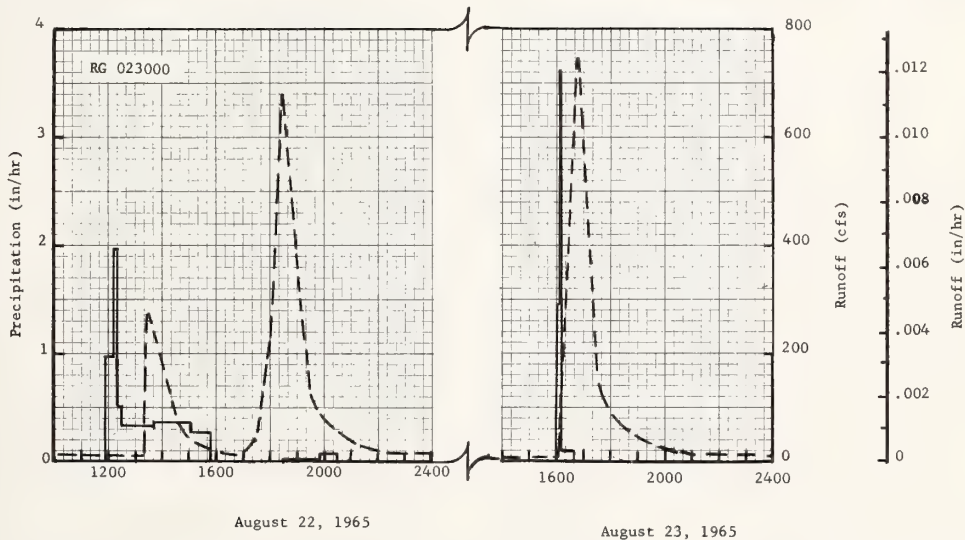
1965 MEAN DAILY DISCHARGE (cfs)						REYNOLDS, IDAHC WATERSHED W-1 (68 036068)						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	52.08	<u>211.2</u>	36.22	<u>26.31</u>	147.9	<u>70.24</u>	17.20	<u>1.45</u>	3.01	3.54	3.62	4.58
2	56.17	165.1	36.51	35.73	117.4	61.34	17.24	<u>2.56</u>	3.02	3.25	3.41	4.39
3	51.47	138.7	37.29	34.21	98.79	53.05	<u>15.25</u>	27.63	2.93	3.11	3.37	3.70
4	49.67	125.2	<u>34.47</u>	35.68	91.75	46.76	<u>14.67</u>	8.08	2.62	2.94	<u>3.14</u>	3.35
5	51.41	116.5	34.99	36.46	86.08	42.86	13.52	5.59	2.75	3.14	<u>3.21</u>	3.17
6	70.42	95.03	34.11	38.20	77.65	37.34	11.48	3.66	2.70	3.31	3.32	2.86
7	57.32	78.33	34.56	36.96	73.17	37.32	7.56	3.85	2.88	3.25	3.34	4.10
8	43.66	78.33	34.45	37.63	61.80	36.99	6.66	3.38	3.28	2.94	4.33	3.30
9	44.23	67.76	35.98	41.44	53.74	31.52	5.75	3.15	3.00	<u>2.74</u>	4.82	4.17
10	43.42	59.43	35.77	42.37	47.04	28.41	4.85	3.47	2.88	<u>2.82</u>	5.19	5.35
11	43.46	53.48	32.36	40.07	46.44	29.63	4.87	12.80	2.85	3.17	5.58	4.97
12	37.82	55.44	31.67	41.20	44.73	29.98	4.27	6.36	2.82	3.31	5.68	4.16
13	34.60	60.01	30.42	45.09	48.53	29.07	3.50	5.43	2.63	3.73	6.11	3.52
14	33.36	54.51	31.11	45.30	54.94	26.92	3.39	3.99	<u>2.57</u>	4.35	<u>9.22</u>	4.03
15	31.31	50.10	31.38	48.06	56.71	28.45	3.21	3.43	<u>2.65</u>	5.63	<u>8.24</u>	4.16
16	30.51	50.23	31.79	49.33	62.12	28.25	3.09	3.62	3.83	5.83	6.95	2.30
17	<u>30.29</u>	49.71	28.54	47.68	62.20	27.11	3.23	3.01	3.19	<u>6.17</u>	6.77	2.64
18	<u>31.78</u>	48.74	<u>21.87</u>	57.96	55.76	26.46	3.16	3.23	3.39	<u>5.89</u>	6.56	2.61
19	32.88	48.46	<u>23.36</u>	125.9	55.84	26.28	3.26	3.69	3.58	5.96	6.32	2.74
20	33.15	49.01	25.47	144.5	52.23	22.60	2.92	10.94	3.35	4.78	6.17	<u>2.18</u>
21	33.05	49.16	28.78	168.1	<u>42.72</u>	18.34	2.95	11.45	3.46	5.51	6.22	2.95
22	31.33	48.27	29.22	<u>184.1</u>	114.1	16.88	2.64	<u>52.52</u>	3.43	5.33	5.90	3.94
23	58.00	42.44	28.74	179.4	<u>292.0</u>	15.92	2.70	<u>43.97</u>	<u>3.93</u>	4.82	6.21	3.02
24	139.4	41.78	33.06	166.1	214.7	14.24	2.68	8.70	3.59	5.12	6.28	3.58
25	62.21	<u>39.26</u>	32.00	158.9	254.9	15.37	2.53	5.87	3.83	5.06	5.44	3.94
26	53.45	41.27	25.58	150.8	121.1	26.89	2.35	4.78	2.91	5.03	3.98	3.61
27	77.25	53.34	25.13	140.4	103.9	20.06	2.16	4.52	2.82	5.06	3.61	3.92
28	655.3	39.97	24.18	135.6	93.88	17.66	1.71	3.81	2.92	5.26	3.16	5.06
29	726.3	-----	24.94	155.1	89.23	17.27	1.53	3.64	2.96	4.84	4.11	<u>5.47</u>
30	<u>737.5</u>	-----	26.88	160.4	91.14	<u>13.66</u>	<u>1.38</u>	3.58	3.21	4.53	4.52	<u>5.01</u>
31	<u>428.2</u>	-----	<u>23.40</u>	-----	<u>83.95</u>	-----	<u>1.39</u>	<u>3.21</u>	-----	<u>3.73</u>	-----	<u>4.29</u>
MEAN	124.5	71.81	30.46	86.96	93.44	29.90	5.58	8.56	3.08	4.33	5.16	3.78
INCHES	1.591	.828	.389	1.075	1.195	.370	.071	.109	.038	.056	.064	.048

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .000412. TO CONVERT DISCHARGE TO AC-FT., MULTIPLY BY 4820. MAX AND MIN FLOWS EACH MONTH ARE UNDERLINED.

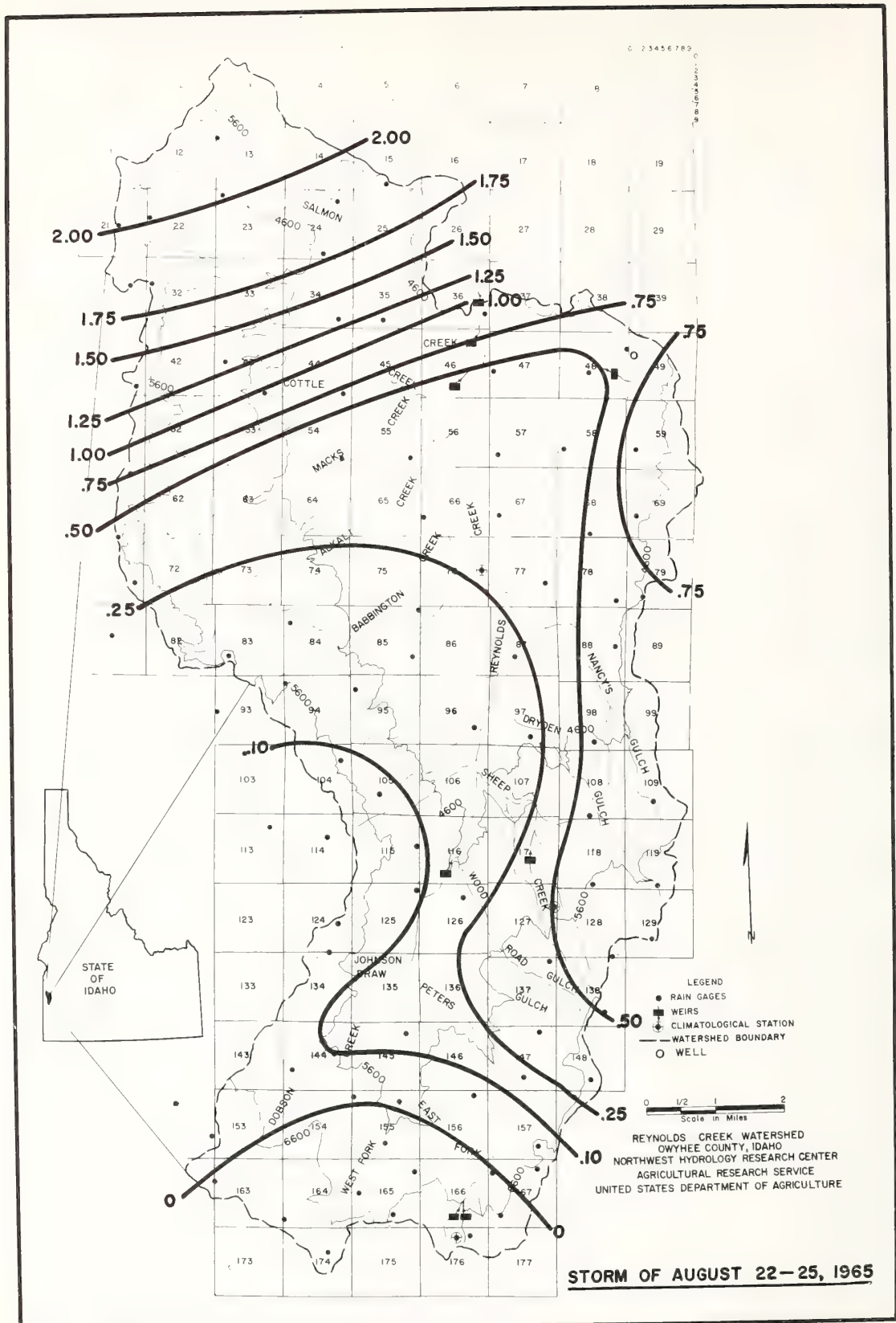
1965 SELECTED RUNOFF EVENT			REYNOLDS, IDAHO WATERSHED W-1 (68 036068)							
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Events of August 22-25, 1965										
8-22	.00	2/.002	8-22	RG	023000 <sup>1/</sup>		8-22			
				1157	.00	.00		1315	5.09	.0000
				1215	.96	.29		1330	275.55	.0006
				1220	1.93	.45		1430	81.09	.0036
				1232	.50	.55		1500	44.11	.0042
				1343	.31	.92		1700	18.36	.0052
				1505	.34	1.35		1730	33.14	.0054
				1545	.27	1.57		1800	216.60	.0065
				1830	.00	1.57		1830	677.84	.0104
				1950	.02	1.59		1900	325.60	.0147
				2030	.06	1.63		1930	128.46	.0166
			8-23	1600	.00	1.63	8-23	2000	66.24	.0175
				1610	1.45	1.87		2100	42.49	.0184
				1612	3.61	1.99		2400	16.21	.0199
				1640	.11	2.04		600	10.25	.0213
								1200	9.54	.0223
								1600	7.43	.0229
								1645	755.07	.0278
								1730	166.71	.0337
								1800	102.22	.0349
								1900	46.20	.0361
							8-24	2000	26.33	.0368
								2200	17.14	.0375
								2400	12.54	.0380
								600	9.54	.0392
			8-25					1200	8.21	.0401
								1800	7.43	.0409
								2400	6.69	.0416
								1200	6.27	.0429
								2000	4.73	.0437

Watershed conditions: Thunderstorm rainfall extremely variable over the area; 94% of area sagebrush rangeland; 3% of area forested; and 3% irrigated pasture and hay crops.

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY .00001717. FOR MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 68.1-8. <sup>1/</sup> FOR ISOHYETAL MAP OF STORM EVENT SEE P. 68.1-5. <sup>2/</sup> PRIOR TO 1315 (CONTINUOUS FLOW).



REYNOLDS, IDAHO WATERSHED W-1 (68036068)



## REYNOLDS, IDAHO SALMON CREEK WATERSHED W-2 (68 046017)

**LOCATION:** Owyhee County, Idaho; 34 miles south of Nampa; east flowing tributary to Reynolds Creek.

**AREA:** 8990 acres (14.05 sq. miles)

<b>SLOPES:</b>	Slope--Percent	0-30	30-60
	Percent of area	36	64

**SOILS:** Residual, derived mostly from basalt; lesser amounts from lacustrine sediments, granite and pediment alluvium and colluvium.

Soil	Percent of area	Topsoil			Subsoil		Substratum		Internal drainage
		Avg. depth (in.)	Structure	Permeability	Structure	Permeability	Avg. depth to (in.)	Permeability	
Bakeoven Series (Very rocky loam, extremely stony loam, stony very gravelly loam, extremely rocky loam, rocky extremely stony loam)	14.7	3	Weak very fine platy to granular	Moderate	Weak very fine and fine subangular blocky	Moderate or moderately slow	7	Very slow or none	Medium
Reywat-Bakeoven Series (Stony gravelly loam, extremely stony gravelly loam, very stony gravelly loam, rocky loam, stony loam, very stony loam, rocky very stony loam, rocky loam, extremely stony loam, very rocky very stony loam)	14.6	See characteristics for Reywat Series and Bakeoven Series (40-60% Reywat, 30-45% Bakeoven, and 10-30% bedrock exposures)							
Ruclick-Babbington Series (Gravelly loam, very stony gravelly loam, stony very gravelly loam, loam, stony loam, stony gravelly loam, rocky stony loam)	10.2	See characteristics for Ruclick Series and Babbington Series (35-70% Ruclick, 20-50% Babbington, and 10-15% bedrock exposures)							
Reywat-Licksillet Series (Gravelly loam, stony gravelly loam, stony loam, very stony gravelly loam, rocky very stony loam)	9.3	See characteristics for Harmehl Series and Demast Series (40-70% Harmehl and 30-60% Demast)							
Harmehl-Demast Series (Cobbly loam, stony gravelly loam, very gravelly loam, stony loam, rocky stony loam, very stony loam)	7.0	See characteristics for Reywat Series and Licksillet Series (40-70% Reywat, 20-50% Licksillet, and up to 100% bedrock exposures)							
Newell Series (Loam, gravelly loam, stony gravelly loam)	4.8	5	Moderately friable and platy or granular	Moderate	Medium prismatic moderate parting subangular blocky	Moderately slow	55	Moderate or rapid	Medium to rapid
Babbington Series (Loam, gravelly loam, and stony loam)	4.6	8	Weak very thin platy (very fine granular)	Moderate	Moderate to strong fine and very fine subangular blocky (prismatic)	Moderately slow	20	Moderate or rapid	Medium



Soil	Per- cent of area	Topsoil			Subsoil		Substratum		Internal drainage
		Avg. depth (in.)	Structure	Perme- ability	Structure	Perme- ability	Avg. depth to (in.)	Perme- ability	
Glasgow Series (Loam, gravelly loam, stony gravel- ly loam, stony loam)	4.6	9	Weak very fine granular	Moderate	Moderate fine and very fine subangular blocky	Moderate- ly slow	40	Moderate	Medium
Castle Valley Series (Rocky coarse sandy loam, extremely rocky coarse sandy loam)	3.8	6	Very weak very fine granular (platy in top)	Rapid or moderately rapid	Weak medium subangular blocky	Moderate- ly slow or moder- ate	12	Slow to none	Medium
Gabica-Harmehl Series (Very rocky loam)	3.7	See characteristics for Gabica and Harmehl Series (40-60% Gabica Loam, 20-30% Harmehl Loam, and 10-30% basalt outcrops)							
Gabica Series (Rocky loam, very rocky loam, very stony loam)	2.8	9	Moderate fine granular	Moderate	Weak fine sub- angular blocky	Moderate- ly slow	17	Very slow or none	Medium
Gemson Series (Clay loam, very cobbly clay loam, gravelly clay loam, stony gravelly loam, stony loam)	2.4	10	Moderate platy or granular	Moderate to moderately rapid	Prismatic angular blocky	Moderate or moder- ately slow	55	Moderate	Medium
Gemid Series (Very cobbly loam, gravelly loam, stony loam)	2.3	9	Moderate or strong very fine to medium	Moderate	Strong or mod- erate medium prismatic (sub- angular blocky)	Slow	32	Very slow or none	Medium to slow
Additional Series	15.2	--	--	--	--	--	--	--	--
Total	100.0								
Individual Series Descriptions which Occur in Combinations Above									
Demast loam	--	15	Very weak very thin platy	Moderate	Weak medium prismatic	Moderate	60	Moderate	Medium to rapid
Harmehl loam	--	10	Weak medium prismatic fine sub- angular blocky fine granular	Moderate	Moderate fine and medium sub- angular blocky	Slow to moderate	39	Very slow	Medium
Licksillet gravelly loam	--	12	Weak thin platy very fine granular	Moderately rapid	Weak medium subangular blocky	Moderate	17	Moderate	Medium
Reywat stony loam	--	10	Weak thin platy fine granular	Moderately rapid	Weak or mod- erate sub- angular blocky	Slow to moderate	20	Moderate	Medium
Ruclick very stony gravelly loam	--	10	Weak fine sub- angular blocky part- ing to mod- erate fine granular	Moderately rapid	Moderate or strong fine angular and subangular blocky	Moderate	39	Moderate	Medium to rapid

**EROSION:**

Erosion Class	1	2	3	4
Percent of Area	81	19	0	0

**LAND CAPABILITY:**

Class	I	II	III	IV	V	VI	VII	VIII
Percent of Area	0	0	0	23	10	51	9	7

**GEOLOGY:** The Salmon Creek Watershed lies in a complexly faulted and folded portion of an east-dipping anticline. The geologic formations are composed of approximately 85% basaltic volcanics, 5% latite (intermediate silicic volcanic), 5% granite, and 5% lacustrine deposits. Source of data: Cenozoic Geology of the Reynolds Creek Watershed, Owyhee County, Idaho, by David M. McIntyre, Idaho Bureau of Mines and Geology Bulletin, (In print).

**SURFACE DRAINAGE:** Principal waterway 7.25 miles, overall slope 5.76%. Channels well incised and provide good surface drainage.

**CHARACTER OF FLOW:** Perennial except during periods of drought.

**INSTRUMENTATION:**

Runoff: 7,000 cfs capacity Drop-Box V-Notch Weir calibrated by hydraulic modeling, three water stage recorders, and low-flow rating by current meter measurement.

Precipitation: 11 Belfort recording rain gages.

Temperature: Maximum-minimum at Reynolds Weather Station approximately 5 miles SE of watershed.

**WATERSHED CONDITIONS:** The watershed is almost entirely in sagebrush rangeland except for approximately 1% of the area in irrigated pasture and hay crops. The watershed is characterized by steep topography, numerous basalt outcrops, extensive areas of shallow rocky soil and fair cover conditions. The major range forage plants are cheatgrass, bluebunch wheatgrass and Idaho fescue with scattered clumps of willow along the main watercourses. The area has been heavily grazed by cattle and sheep since the late 1800's. Privately owned rangeland occupies approximately 25% of the area.

**GENERALLY REPRESENTS:** Extensive low water yield rangeland areas of southern Idaho, eastern Oregon, Nevada, and portions of other western states. Owyhee High Plains (D-23) and Malheur Plateau (D-23) land resource areas.

MONTHLY PRECIPITATION AND RUNOFF (inches)						REYNOLDS, IDAHO      SALMON CREEK WATERSHED W-2 (68 046017)										
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
YEAR																
1965	P <sub>1</sub>	4.84	.44	.12	1.59	3.92	1.62	.25	3.80	.50	.40	1.47	.67	19.62		
	O	1.748	.799	.250	.357	.752	.237	.068	.274	.106	.100	.102	.081	4.874		
STA AV <sup>2</sup> /P <sub>Q</sub>																
	Q															
MEAN	P <sub>3</sub>															
26 YR		1.32	1.33	1.32	1.16	1.29	.89	.21	.16	.39	.84	1.20	1.32	11.43		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-23	.073	8-23	.044	8-23	.056	1-28	.114	1-28	.208	1-28	.379	1-28	.766	1-28	1.495
MAXIMUMS FOR PERIOD OF RECORD																
4/	8-23		8-23		8-23		1-28		1-28		1-28		1-28		1-28	
1965	1965	.073	1965	.044	1965	.056	1965	.114	1965	.208	1965	.379	1965	.766	1965	1.495

Notes: 1/ Precipitation data based on Thiessen weighted average of 6 rain gages. 2/ Length of record not sufficient to establish Sta. Av. 3/ Mean P based on 26-yr (1939-1964) U.S. Weather Bureau record period at Boise, Idaho; 50 miles NE of watershed. 4/ Period of record based only on 1965 data.

1965 DAILY AIR TEMPERATURE (degrees F)												REYNOLDS, IDAHO SALMON WATERSHED W-2 (68 046017)												
DAY	JAN		FEB 1/		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	28	4	37	21	34	16	61	42	66	36	63	44	82	54	--	--	84	39	74	38	67	28	39	14
2	32	5	36	19	41	16	50	29	50	30	71	43	76	47	92	54	81	48	78	39	67	33	39	15
3	40	25	46	25	43	15	52	23	56	30	77	48	80	48	84	52	76	56	77	39	68	32	48	24
4	40	22	56	26	47	20	56	30	57	32	78	49	86	50	80	48	68	37	83	42	67	40	56	22
5	47	34	49	34	50	21	57	28	48	22	74	44	82	56	83	49	68	44	85	53	69	33	59	27
6	44	32	45	22	51	21	52	38	44	28	80	47	82	50	84	49	61	42	69	36	60	31	56	21
7	42	17	39	19	54	23	50	33	52	31	83	48	90	56	85	51	72	44	76	42	64	29	50	19
8	28	15	44	26	56	22	54	31	58	38	79	48	90	55	94	60	63	47	74	38	59	33	51	19
9	33	20	38	19	50	26	49	31	59	32	80	58	87	58	93	64	65	46	85	43	58	34	45	21
10	34	23	30	16	45	24	44	28	66	33	82	51	82	54	90	63	75	53	80	40	54	26	48	25
11	38	20	31	12	50	19	51	32	72	35	84	48	77	48	89	56	74	44	74	38	57	26	47	29
12	36	13	38	16	41	24	55	29	75	38	91	50	84	41	85	60	70	43	75	35	49	34	42	22
13	35	10	40	29	45	19	62	38	72	43	67	41	72	39	73	45	65	40	74	31	45	36	39	24
14	36	14	38	25	52	25	61	38	67	42	63	40	84	47	75	44	65	42	68	34	60	42	40	23
15	37	13	--	--	40	21	66	38	75	40	60	39	93	54	81	58	74	55	73	37	46	37	30	20
16	28	11	--	--	51	33	55	36	66	40	56	46	87	54	84	55	68	36	50	29	56	30	30	5
17	25	12	--	--	41	22	48	31	64	30	60	39	92	65	85	55	46	26	51	30	53	31	34	5
18	30	15	--	--	28	02	55	29	67	29	69	50	91	65	87	55	46	24	58	30	59	39	28	4
19	26	16	--	--	35	04	68	39	72	39	68	42	84	56	78	55	50	26	64	37	57	35	29	5
20	26	20	--	--	44	13	65	50	63	44	77	46	88	64	82	49	68	41	56	28	50	26	33	4
21	37	22	--	--	58	20	62	46	57	45	80	49	85	46	71	48	62	42	60	29	48	33	33	5
22	36	21	--	--	48	28	54	43	57	43	83	49	75	39	72	48	74	42	66	29	50	30	34	7
23	41	25	--	--	37	16	62	40	46	40	81	54	73	44	70	47	70	40	68	30	54	33	32	9
24	40	26	--	--	30	13	57	42	57	39	85	48	81	47	72	46	64	33	71	33	49	29	32	6
25	33	26	52	20	37	12	61	39	63	41	77	47	88	56	78	48	68	36	70	31	45	26	43	19
26	39	25	59	27	45	26	63	37	66	43	71	45	91	60	71	44	72	40	69	30	39	26	32	11
27	42	26	50	31	47	27	68	36	73	41	65	36	84	50	71	46	72	48	69	31	37	20	36	9
28	42	37	39	24	44	17	70	42	78	43	64	38	87	56	80	51	62	36	68	35	39	14	46	22
29	47	38	--	--	60	22	71	46	80	50	74	44	89	56	64	37	63	35	66	34	40	13	55	32
30	51	44	---	---	67	32	73	44	69	44	76	45	92	60	63	36	68	38	69	33	43	13	42	31
31	49	27	---	---	64	33	---	---	63	43	---	---	82	55	68	34	---	---	65	31	---	---	40	25
AV.	37	21	--	--	47	20	58	36	63	38	74	46	85	52	79	50	68	41	70	35	54	30	41	17
MEAN	29.0	--	---	---	33.5	47.4	50.4	59.9	68.5	64.8	54.1	52.6	41.6	28.9										
STA AV	35	16	44	26	47	25	56	30	66	40	73	46	85	49	82	48	77	42	66	34	51	27	41	21
NOTES: TEMP DATA ARE BASED ON REYNOLDS CLIMATOLOGICAL STATION, PUBLISHED IN U.S. WEATHER BUREAU CLIMATOLOGICAL DATA FOR IDAHO, VOL 68. STA AV BASED ON RECORDS FROM JAN. 1962 THROUGH DEC. 1964. 1/ RECORD MISSING MORE THAN 10 DAYS IN FEBRUARY.																								
1965 DAILY PRECIPITATION (inches)												REYNOLDS, IDAHO SALMON WATERSHED W-2 (68 046017)												
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC												
1	.00	.02	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00												
2	.03	.00	.00	.00	.00	.00	.00	.32	.00	.00	.00	.00												
3	.59	.00	.00	.00	.00	.00	.01	.38	.00	.00	.00	.00												
4	.16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00												
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00												
6	.22	.00	.00	.08	.05	.00	.00	.00	.00	.00	.00	.00												
7	.10	.00	.00	.04	.00	.00	.00	.00	.06	.00	.00	.00												
8	.07	.02	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00												
9	.03	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00												
10	.25	.00	.00	.05	.00	.00	.00	.00	.00	.00	.16	.03												
11	.05	.00	.00	.01	.00	.00	.00	.15	.00	.00	.08	.00												
12	.00	.00	.00	.00	.00	.28	.00	.14	.00	.00	.27	.00												
13	.00	.23	.00	.00	.00	.03	.00	.00	.00	.00	.11	.00												
14	.00	.00	.00	.00	.00	.19	.00	.00	.00	.27	.53	.04												
15	.00	.00	.00	.00	.00	.05	.00	.00	.14	.01	.00	.00												
16	.00	.00	.00	.25	.00	.37	.00	.00	.25	.00	.01	.00												
17	.00	.00	.00	.12	.00	.00	.02	.00	.00	.00	.10	.00												
18	.00	.00	.00	.33	.00	.00	.07	.05	.00	.02	.01	.00												
19	.00	.00	.00	.00	.00	.00	.00	.34	.00	.07	.00	.00												
20	.00	.00	.00	.01	.00	.00	.00	.45	.00	.00	.02	.00												
21	.19	.01	.00	.06	.27	.00	.00	.17	.00	.00	.00	.00												
22	.02	.00	.00	.25	1.70	.00	.00	1.34	.00	.00	.00	.01												
23	.54	.00	.00	.00	1.60	.00	.00	.46	.00	.00	.08	.00												
24	.10	.00	.00	.13	.17	.00	.00	.00	.00	.00	.07	.23												
25	.06	.00	.03	.00	.00	.30	.00	.00	.00	.00	.00	.03												
26	.04	.00	.08	.00	.00	.40	.07	.00	.00	.00	.04	.00												
27	.17	.16	.01	.00	.00	.00	.00	.00	.00	.00	.00	.02												
28	1.78	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00	.12												
29	.33	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.01												
30	.07	---	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02												
31	.04	---	.00	---	.00	---	---	---	.00	---	.16													
TOTAL	4.84	.44	.12	1.59	3.92	1.62	.25	3.80	.50	.40	1.47	.67												
STA AV	2/																							
NOTES: PRECIPITATION VALUES ARE BASED ON THIESSEN WEIGHTED AVERAGES FOR 6 RAIN GAGES. 2/ LENGTH OF RECORD NOT SUFFICIENT TO ESTABLISH STA AV.																								

1965 MEAN DAILY DISCHARGE (cfs)					REYNOLDS, IDAHO		SALMON WATERSHED W-2 (68 046017)						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1	12.28	37.07	4.23	2.58	4.46	6.83	1.58	.46	1.59	1.11	1.11	1.14	
2	11.04	30.05	4.17	3.10	4.18	6.69	1.45	1.69	1.50	1.11	1.05	1.19	
3	9.82	24.91	4.13	3.19	3.99	5.46	1.29	5.41	1.44	1.08	1.13	1.08	
4	8.67	21.72	3.99	3.23	4.00	5.14	1.30	2.30	1.46	1.08	1.03	1.08	
5	7.91	19.43	3.88	3.23	4.12	4.72	1.19	1.47	1.51	1.06	1.05	1.08	
6	10.40	16.32	3.85	3.32	3.89	4.11	1.13	1.20	1.45	1.08	1.08	1.21	
7	9.03	13.89	3.74	3.53	3.87	3.65	1.02	1.01	1.53	1.21	1.11	1.31	
8	6.62	13.07	3.64	3.50	3.61	3.55	.91	.81	1.66	1.21	1.13	1.22	
9	6.63	10.73	3.51	3.72	3.30	3.29	.97	.58	1.44	1.15	1.15	1.20	
10	6.46	9.62	3.42	3.82	3.09	3.09	.86	.55	1.26	1.18	1.17	1.23	
11	6.09	9.49	3.37	3.55	2.94	2.86	.86	.76	1.24	1.23	1.39	1.18	
12	5.51	7.52	3.35	3.39	2.83	2.90	.86	1.13	1.24	1.24	1.44	1.14	
13	5.12	8.00	3.17	3.25	2.83	2.98	.78	.86	1.24	1.25	1.38	.85	
14	4.97	7.53	3.14	3.34	2.69	2.69	.67	.80	1.17	1.33	2.29	.95	
15	4.51	6.59	3.04	3.43	2.51	2.51	.59	.71	1.23	1.58	1.65	.90	
16	4.14	5.67	3.09	3.90	2.35	3.53	.59	.71	1.85	1.35	1.44	.84	
17	4.30	5.47	2.96	4.02	2.35	2.88	.53	.66	1.42	1.27	1.53	.78	
18	4.66	5.45	2.08	5.20	2.37	2.51	.48	.71	1.35	1.23	1.38	.73	
19	5.00	5.40	2.33	6.90	2.28	2.24	.60	1.14	1.32	1.28	1.36	.72	
20	5.29	5.30	2.33	6.39	2.17	1.93	.53	1.51	1.25	1.18	1.32	.72	
21	5.61	5.18	2.61	6.75	2.38	1.77	.49	2.23	1.17	1.37	1.24	.72	
22	5.67	5.02	2.70	7.22	6.04	1.62	.68	23.81	1.18	1.35	1.14	.72	
23	10.44	4.46	2.64	6.32	60.51	1.63	.86	30.51	1.15	1.32	1.36	.84	
24	17.58	4.50	2.27	6.24	56.39	1.59	.81	61.19	1.19	1.26	1.48	.85	
25	12.06	4.51	2.27	5.96	26.63	1.51	.77	3.71	1.22	1.20	1.33	.81	
26	8.81	4.80	2.62	5.53	17.40	2.71	.71	2.94	1.17	1.12	1.22	.79	
27	10.88	5.35	2.37	5.28	13.24	1.71	.79	2.50	1.17	.98	1.17	.87	
28	112.7	4.62	2.21	5.24	11.31	1.47	.74	2.17	1.20	1.12	1.02	.98	
29	136.0	-----	2.27	5.14	10.08	1.34	.65	1.99	1.17	1.30	.96	1.10	
30	127.3	-----	2.38	4.67	8.64	1.40	.60	1.86	1.12	1.23	1.18	1.13	
31	74.94	-----	2.67	-----	7.73	-----	.54	1.72	-----	1.19	-----	1.03	
MEAN	21.30	10.78	3.05	4.50	9.17	2.99	.83	3.34	1.33	1.22	1.28	.98	
INCHES	1.748	.799	.250	.357	.752	.237	.068	.274	.106	.100	.102	.081	

NOTES: TC CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .002648. TC CONVERT DISCHARGE TO AC-FT., MULTIPLY BY 749.2. MAX AND MIN FLOWS EACH MONTH ARE UNDERLINED.

1965			REYNOLDS, IDAHO				SALMON WATERSHED W-2 (68 046017)						
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF						
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)			
Events of August 22-25, 1965													
8-22	.00	.002	8-22	RG	023000		8-22	1250	1.33	.0000			
				1157	.00	.00					1310	2.10	.0000
				1215	.96	.29					1320	326.93	.0030
				1220	1.93	.45					1325	293.99	.0059
				1232	.50	.55					1330	316.38	.0087
				1343	.31	.92							
				1505	.34	1.35					1345	166.03	.0154
				1545	.27	1.57					1400	110.06	.0192
				1830	.00	1.57					1415	78.57	.0218
				1950	.02	1.59					1430	57.01	.0236
			2030	.06	1.63	1445	36.75	.0245					
			8-23	1600	.00	1.63	1500	32.00	.0259				
				1610	1.45	1.87	1530	22.53	.0274				
				1612	3.61	1.99	1600	17.30	.0285				
				1640	.11	2.04	1630	14.72	.0294				
							1700	13.50	.0301				
							1710	24.00	.0305				
							1725	19.53	.0311				
							1730	22.53	.0313				
							1735	54.39	.0316				
				1740	55.04	.0321							
			1755	102.99	.0343								
			1800	159.33	.0355								
			1815	261.49	.0413								
			1830	133.18	.0468								
			1845	77.75	.0497								
			1900	52.48	.0515								
			1915	38.26	.0527								
			1930	28.94	.0537								
			2000	21.03	.0550								
			2100	15.32	.0570								

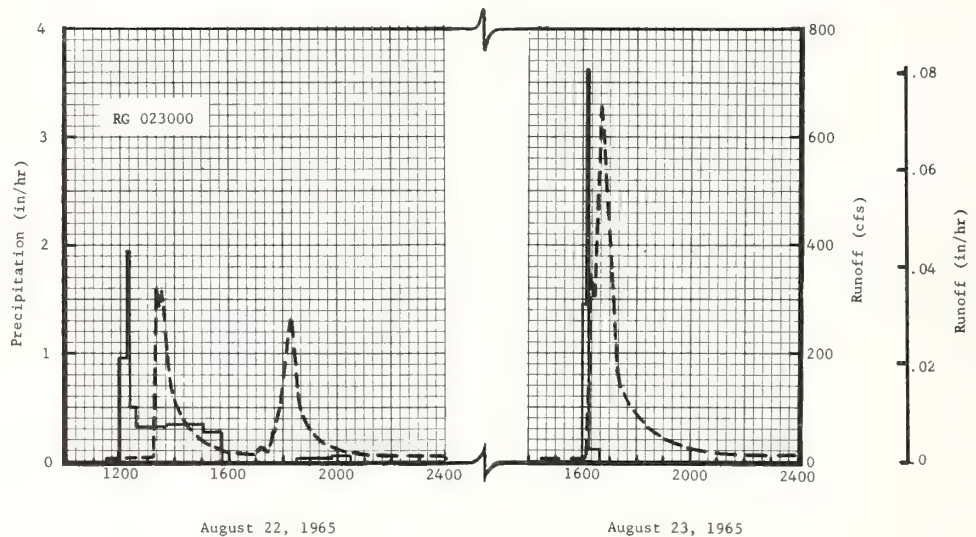
Watershed conditions: 98% of area sagebrush rangeland and 2% of area fenced pasture and hay crops. Cover above average due to favorable moisture conditions during the growing season.

NOTES: TO CONVERT CFS TO IN/HR., MULTIPLY BY .0001103. FOR MAP OF WATERSHED SEE P. 68.2-7. 1/ PRIOR TO 1250 (CONTINUOUS FLOW).

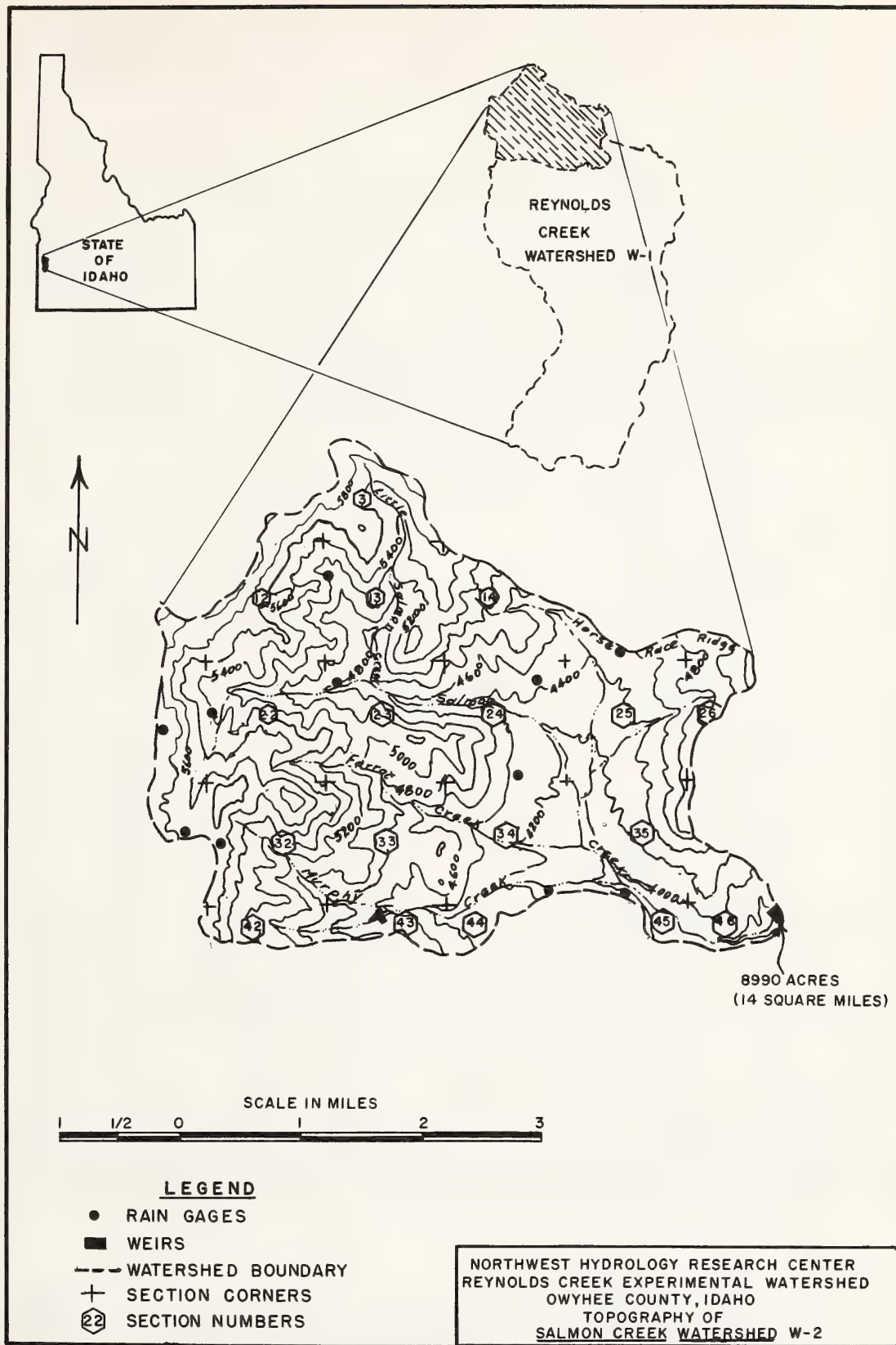


1965 <b>SELECTED RUNOFF EVENT</b>			REYNOLDS, IDAHO				SALMON WATERSHED W-2 (68 046017)			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Events of August 22-25, 1965				(Continued)			
							8-22	2200	11.38	.0585
								2300	9.68	.0597
								2400	8.35	.0607
							8-23	300	6.16	.0631
								600	5.06	.0649
								1200	3.91	.0679
								1545	3.39	.0694
								1605	5.16	.0696
								1610	8.50	.0696
								1615	344.28	.0712
								1625	306.07	.0772
								1640	658.73	.0905
								1645	534.78	.0960
								1700	348.72	.1082
								1715	159.33	.1152
								1730	126.27	.1191
								1800	90.69	.1251
								1830	59.03	.1293
								1900	41.94	.1320
								1930	30.23	.1340
								2000	22.53	.1355
								2030	18.42	.1366
								2100	15.76	.1376
								2200	12.42	.1391
								2300	10.40	.1404
								2400	9.16	.1415
							8-24	600	6.92	.1468
								1200	5.93	.1510
								1800	5.06	.1547
								2400	4.56	.1578
							8-25	1500	3.48	.1645
								1800	3.06	.1656
								2400	3.23	.1677

NOTES: TO CONVERT CFS TO IN/HR., MULTIPLY BY .0001103.



REYNOLDS, IDAHO      SALMON WATERSHED W-2 (68 046017)

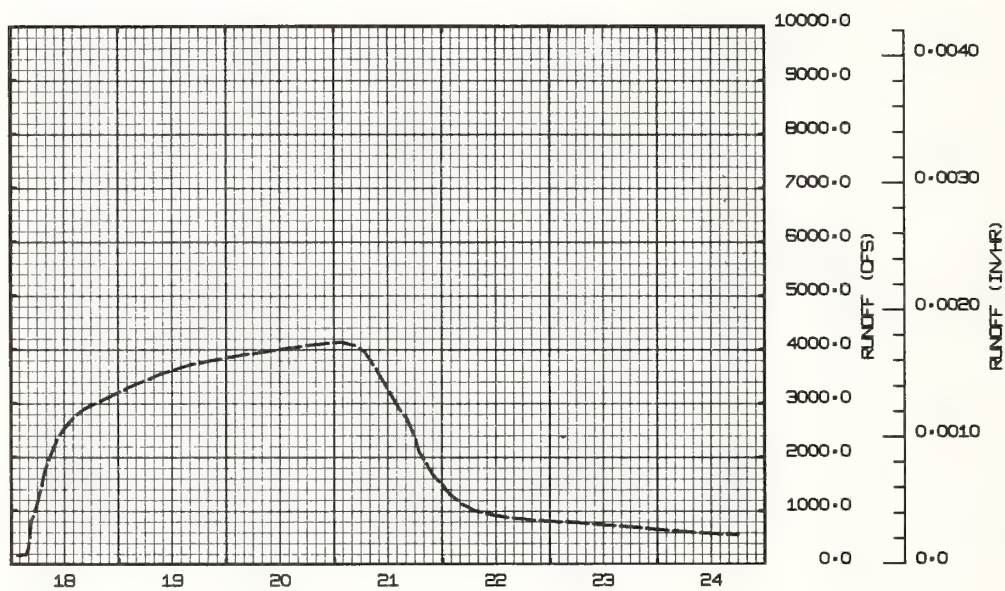


MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 100 AT ANADARKO AREA — 2,339,800 ACRES (3,656 SQ. MILES)										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P <sup>1</sup> / <sub>Q</sub>	.049	.051	.055	.080	.074	.182	.027	.025	.442	.430	.092	.119	1.626		
STA AVG	P <sup>1</sup> / <sub>Q</sub> C <sup>2</sup> / <sub>P</sub>	.044	.050	.051	.064	.085	.204	.037	.044	.185	.148	.152	.071	1.135		
MEAN	P <sup>3</sup> / <sub>Q</sub>	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16		
65 YR																
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-23	.0044	9-23	.0044	9-23	.0088	9-23	.026	9-23	.052	9-23	.100	9-23	.188	9-21	.384
MAXIMUMS FOR PERIOD OF RECORD 4/																
1961 TO 1965	9-23 1965	.0044	9-23 1965	.0044	9-23 1965	.0088	9-23 1965	.026	9-23 1965	.052	9-23 1965	.100	9-23 1965	.188	9-21 1965	.384
Notes: Watershed conditions not available. For revised composite map, see P. 69.7-21. For Geologic map of Watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 7-9. 1/ Since this is the inflow station to a study reach, these data are not applicable. 2/ Runoff records began Oct. 1961. 3/ Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 4/ Period of record began Oct. 1961.																
MISCELLANEOUS DATA																
RUNOFF PEAK DATA: YEAR (1965): Maximum — Sept. 23, 11,000 cfs (24.20 ft). Minimum — Aug. 5, 21 cfs (6.74 ft). PERIOD OF RECORD: Maximum — Sept. 23, 1965, 11,000 cfs (24.20 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 3,000 cfs) 1965 — Oct. 22, 7,194 cfs (21.80 ft); Sept. 23, 11,000 cfs (24.20 ft). DAILY TEMPERATURE: See page 69.7-3.																
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 100 AT ANADARKO										
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	170	143	143	148	160	* 130	* 248	36	38	* 1840	456	210				
2	166	143	146	151	163	230	205	* 29	36	1770	425	* 210				
3	159	143	143	154	* 169	642	191	31	* 32	1730	411	206				
4	* 159	187	137	166	172	* 848	170	24	32	1640	402	201				
5	159	194	* 134	217	172	421	150	21	32	* 1580	* 389	201				
6	159	194	134	* 251	172	256	143	23	29	1540	371	197				
7	159	194	134	207	172	* 598	134	64	31	1110	348	188				
8	159	198	137	301	166	375	118	63	26	697	335	188				
9	159	205	137	348	334	281	115	32	26	510	317	188				
10	156	* 209	140	406	320	205	110	96	24	447	303	188				
11	156	228	* 146	327	213	156	101	261	40	425	299	188				
12	* 153	252	163	416	205	140	98	324	52	375	308	188				
13	153	256	170	436	180	156	* 85	302	* 42	317	286	188				
14	156	252	170	320	381	* 1080	80	157	31	* 259	286	192				
15	156	252	180	383	674	1010	72	98	29	254	286	192				
16	156	224	211	531	537	920	* 68	72	26	237	286	192				
17	153	184	281	639	* 458	711	63	* 58	26	228	281	192				
18	150	150	347	* 386	433	679	56	52	24	250	281	188				
19	150	146	503	275	408	479	* 48	50	56	* 2160	* 272	188				
20	150	146	280	229	285	357	48	48	582	* 4660	272	* 188				
21	153	143	156	202	236	299	44	77	* 3510	* 6410	272	188				
22	163	140	* 145	176	163	277	38	50	* 5490	* 5160	268	197				
23	163	143	142	163	130	461	38	38	* 10200	1990	263	228				
24	156	140	130	157	121	* 2420	34	63	* 9000	1450	259	507				
25	156	137	136	148	118	* 1460	36	68	* 4930	* 1180	246	1420				
26	150	134	136	157	118	833	* 34	54	1940	874	250	1980				
27	146	127	136	148	110	958	32	46	* 1610	755	237	* 951				
28	146	140	139	145	127	745	29	56	1820	674	232	756				
29	150		142	151	140	458	29	52	1920	629	223	729				
30	150		136	157	134	314	27	42	1880	588	219	478				
31	146		136		146		32	40		515		380				
MEAN	155	179	173	263	236	597	86	78	1450	1363	303	377				
INCHES	.049	.051	.055	.080	.074	.182	.027	.025	.442	.430	.092	.119				
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .00001017. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 195,000. YEARLY MEAN DISCHARGE, 438 CFS. YEARLY DISCHARGE, 1.626 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. * DISCHARGE MEASUREMENTS.																

1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 18-24, 1962										
Watershed conditions: Not applicable.							9-18	0130	167.1	
								0312	178.6	
								0342	243.5	
								0430	801.4	
								0530	1040.5	
								0630	1342.9	
								0730	1718.8	
								0830	1962.3	
								0930	2159.9	
								1030	2341.0	
								1130	2492.8	
								1230	2591.8	
								1400	2739.5	
								1630	2903.4	
								2100	3080.8	
							9-19	0300	3319.7	
								0900	3529.9	
								1530	3698.0	
								2130	3803.9	
							9-20	0600	3920.9	
								1800	4070.8	
							9-21	0130	4128.1	
								0430	4074.1	
								0642	3949.2	
								0812	3759.8	
								0942	3556.5	
								1112	3343.2	
								1242	3131.7	
								1412	2905.4	
								1612	2685.5	
								1742	2380.	
								1842	2096.5	
								2012	1879.9	
								2142	1683.4	
								2312	1537.6	
							9-22	0130	1311.2	
								0430	1108.7	
								0730	994.7	
								1030	925.1	
								1500	865.5	
								2100	817.5	
							9-23	0600	777.3	
								1800	698.4	
							9-24	0600	606.0	
								1800	546.3	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.1-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



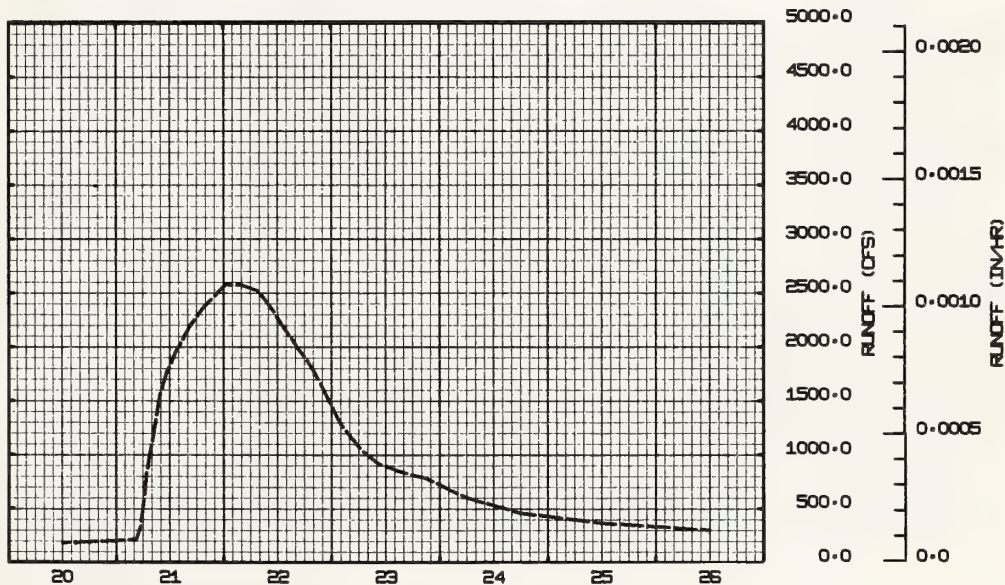


SEPTEMBER 18-24, 1962

CHICKASHA, OKLAHOMA WATERSHED 100

1962			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
<u>Event of October 20-26, 1962</u>														
<u>Watershed conditions:</u> Not applicable.							10-20	1200	181.0					
							10-21	0200	204.6					
								0430	214.2					
								0530	357.9					
								0642	827.0					
								0812	1189.3					
								0942	1549.6					
								1112	1767.1					
								1330	1967.9					
								1630	2197.2					
								1930	2365.9					
								2230	2494.9					
							10-22	0030	2577.8					
								0400	2576.1					
								0800	2511.2					
								1030	2371.3					
								1330	2178.7					
								1630	1992.9					
								1842	1869.0					
								2012	1767.5					
								2230	1592.5					
							10-23	0200	1287.2					
								0630	1049.4					
								1030	917.2					
								1500	842.6					
								2100	780.0					
							10-24	0600	598.8					
								1800	455.1					
							10-25	1200	364.3					
							10-26	1200	297.7					

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.1-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

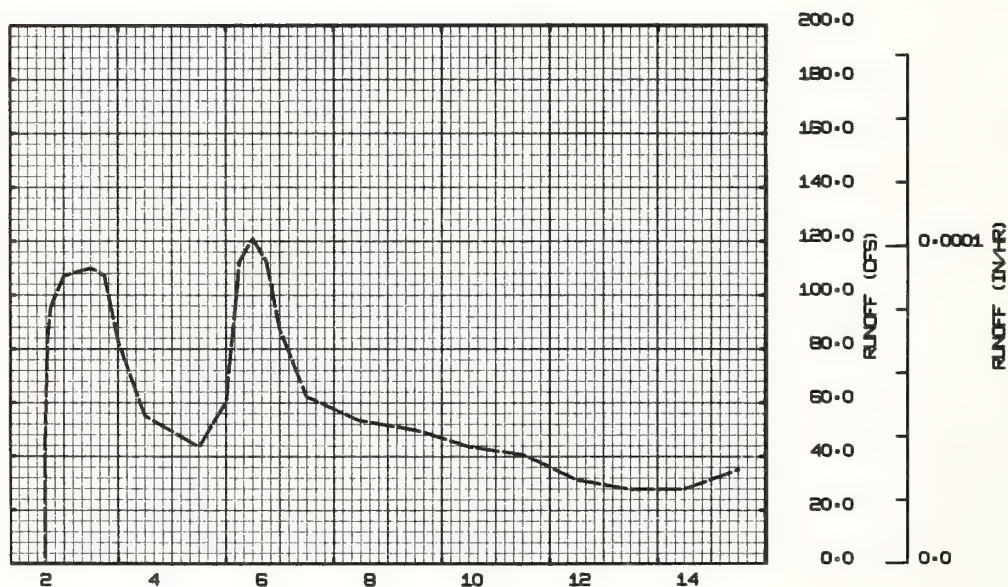


OCTOBER 20-26, 1962

CHICKASHA, OKLAHOMA WATERSHED 100

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF 2/					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
			<u>Event of August 2-15, 1964</u>									
<u>Watershed conditions:</u> Not applicable.							8- 2	0000	0.0			
									1530	0.0		
										1536	43.9	
										1630	81.4	
										1800	95.1	
										2400	107.3	
									8- 3	1200	110.0	
										1800	107.3	
										2400	82.9	
									8- 4	1200	55.0	
									8- 5	1200	43.6	
									8- 6	0000	60.4	
										0600	112.7	
										1200	121.1	
										1800	112.7	
										2400	87.4	
									8- 7	1200	62.2	
									8- 8	1200	53.3	
									8- 9	1200	49.9	
									8-10	1200	43.6	
									8-11	1200	40.7	
									8-12	1200	31.3	
									8-13	1200	27.8	
									8-14	1200	27.8	
									8-15	1200	35.1	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.1-1. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED. 2/ THIS STREAMFLOW IS THE RESULT OF UPSTREAM RELEASE OF IRRIGATION WATER FROM THE FORT COBB RESERVOIR, INTO THE DRY STREAM CHANNEL.



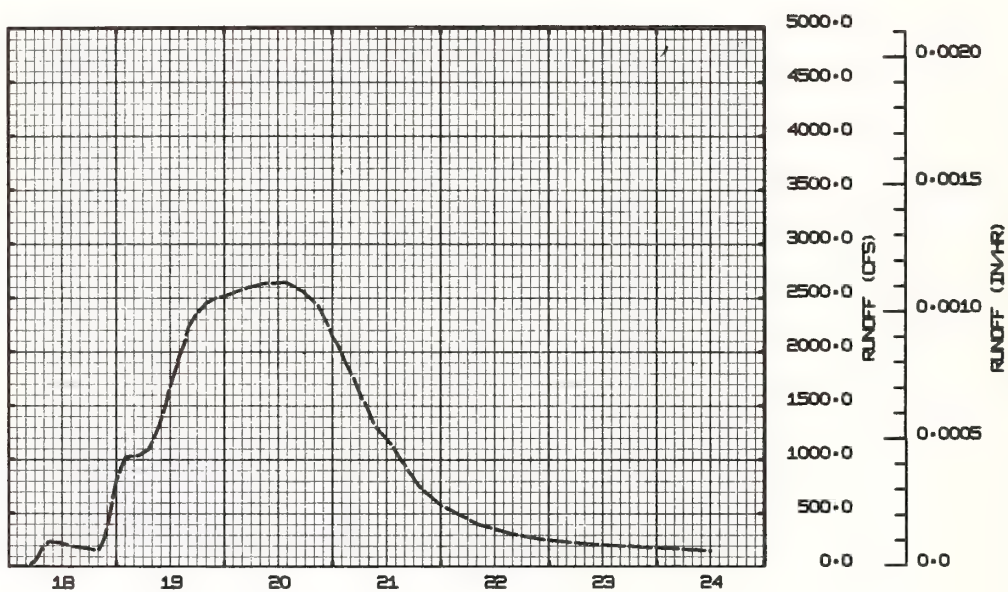
AUGUST 2-15, 1964

CHICKASHA, OKLAHOMA WATERSHED 100

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of August 18-24, 1964										
Watershed conditions: Not applicable.							8-18	0000	9.2	
								0436	9.8	
								0612	68.3	
								0648	111.0	
								0748	192.2	
								0906	233.1	
								1124	226.4	
								1424	189.9	
								1754	168.7	
								2000	154.7	
								2118	253.6	
								2218	440.1	
								2330	710.8	
								2400	803.7	
							8-19	0200	1020.6	
								0512	1037.8	
								0712	1097.5	
								0824	1199.6	
								0936	1322.8	
								1100	1520.4	
								1136	1633.9	
								1254	1796.0	
								1400	1963.6	
								1506	2073.3	
								1606	2233.1	
								1724	2327.3	
								1954	2450.8	
								2236	2511.8	
								2400	2513.3	
							8-20	0412	2580.2	
								0830	2630.7	
								1342	2644.4	
								1730	2561.8	
								2100	2420.0	
								2306	2243.3	
								2400	2147.1	
							8-21	0118	2058.0	
								0300	1894.3	
								0430	1776.2	
								0548	1647.6	
								0642	1559.5	
								0754	1466.2	
								0930	1305.4	
								1112	1232.0	
								1248	1151.0	
								1524	985.3	
								1930	738.7	
								2400	575.3	
							8-22	0800	399.5	
								1530	310.5	
								2400	248.2	
							8-23	1018	210.1	
								2400	179.4	
							8-24	1200	151.7	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.1-1. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



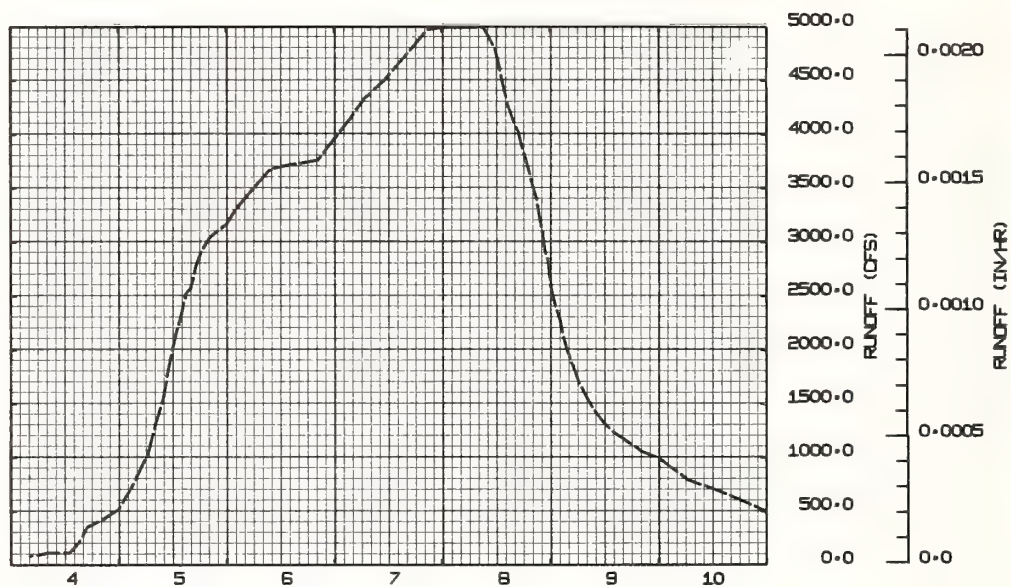


AUGUST 18-24, 1964

CHICKASHA, OKLAHOMA WATERSHED 100

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL <u>1/</u>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of November 4-10, 1964							
Watershed conditions: Not applicable							11- 4	0418	85.1	
								0842	112.7	
								1306	112.7	
								1506	209.5	
								1706	353.9	
								2106	443.0	
								2400	519.3	
							11- 5	0254	728.9	
								0630	1042.1	
								0806	1299.5	
								0948	1541.8	
								1018	1656.9	
								1142	1963.8	
								1230	2110.4	
								1354	2334.0	
								1454	2520.2	
								1600	2574.8	
								1706	2767.1	
								1824	2921.5	
								2018	3046.5	
								2400	3171.3	
							11- 6	0218	3323.5	
								0524	3474.4	
								0918	3657.1	
								1018	3680.0	
								1442	3718.1	
								2018	3760.4	
							11- 7	2400	3958.1	
								0342	4156.6	
								0642	4330.1	
								1100	4493.4	
								1736	4812.7	
								2036	4967.5	
								2400	4989.7	
							11- 8	0918	4989.7	
								1130	4817.5	
								1248	4610.0	
								1418	4313.6	
								1542	4132.9	
								1654	4018.2	
								1812	3809.8	
								1930	3620.3	
								2100	3379.0	
								2200	3146.3	
								2248	2910.3	
								2330	2816.1	
							11- 9	2400	2609.5	
								0036	2486.5	
								0112	2393.3	
								0200	2292.1	
								0242	2149.4	
								0336	2010.7	
								0454	1860.0	
								0624	1691.1	
								0736	1597.1	
								0930	1450.3	
								1136	1328.0	
								1354	1235.6	
								1642	1158.3	
								2018	1055.1	
							11-10	2400	994.6	
								0624	792.8	
								1454	662.0	
								2400	496.1	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000004237. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.1-1. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



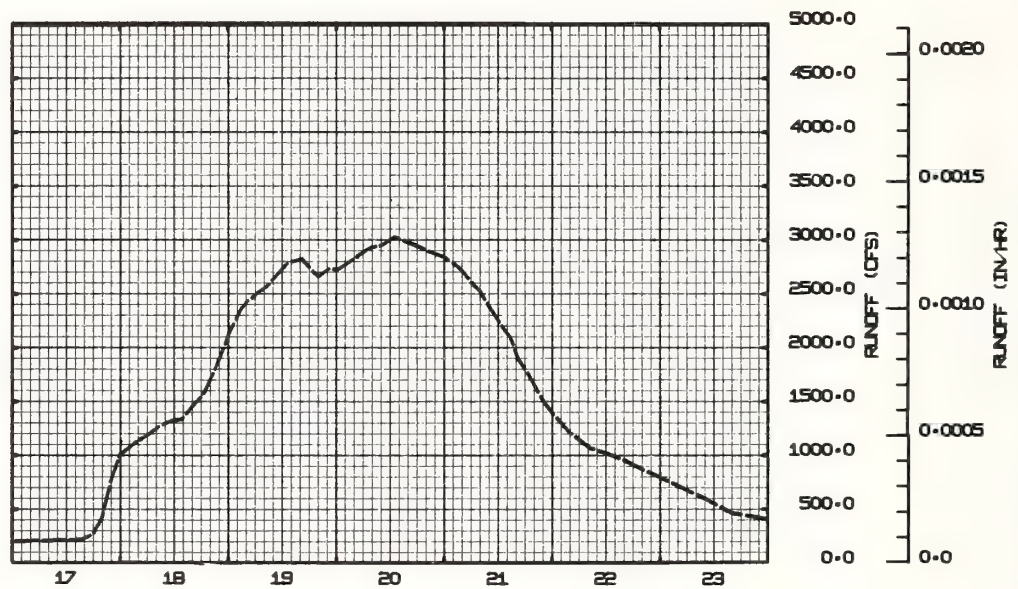
NOVEMBER 4-10, 1964

CHICKASHA, OKLAHOMA WATERSHED 100

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of November 17-23, 1964							
Watershed conditions: Not applicable.							11-17	0000	202.1	
								1524	218.2	
								1754	263.1	
								2000	418.1	
								2148	731.4	
								2400	1004.1	
							11-18	0306	1111.4	
								0654	1211.5	
								0906	1282.3	
								1130	1323.1	
								1348	1336.9	
								1548	1444.3	
								1812	1550.8	
								1900	1607.1	
								2154	1872.8	
								2400	2113.4	
							11-19	0118	2225.0	
								0254	2367.5	
								0430	2441.8	
								0630	2509.0	
								0830	2569.3	
								1124	2707.2	
								1306	2787.4	
								1618	2824.0	
								1954	2658.2	
								2242	2744.6	
							11-20	2400	2720.1	
								0312	2810.1	
								0700	2921.0	
								1018	2958.0	
								1254	3030.1	
								1718	2953.3	
								2400	2837.8	
							11-21	0318	2745.6	
								0554	2611.5	
								0800	2518.6	
								1000	2384.5	
								1248	2203.1	
								1448	2090.6	
								1624	1901.1	
								1842	1755.7	
								2112	1565.4	
								2230	1482.0	
								2400	1393.4	
							11-22	0348	1215.9	
								0818	1072.4	
								1436	981.7	
								2400	792.8	
							11-23	0954	598.2	
								1600	462.4	
								2400	405.6	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.1-1. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.





NOVEMBER 17-23, 1964

CHICKASHA, OKLAHOMA WATERSHED 100

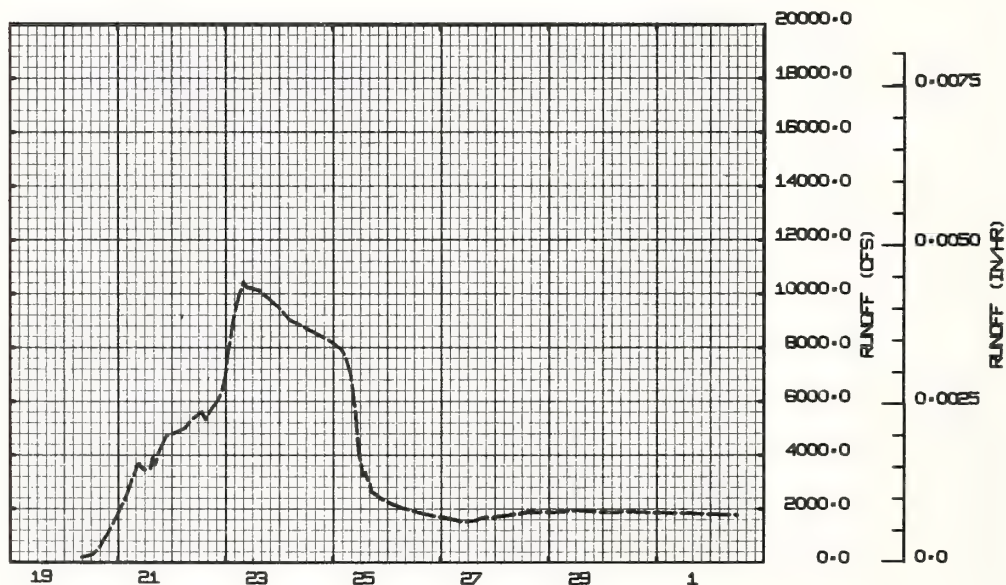
1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
			Event of September 20-October 2, 1965									
							9-20	0800	209.8			
								1100	255.3			
								1300	324.0			
								1500	473.8			
								1636	660.3			
Watershed conditions: Not applicable.								1806	872.3			
								2000	1139.8			
								2142	1448.6			
								2312	1674.5			
								2400	1801.9			
							9-21	0130	2085.9			
								0300	2309.3			
								0436	2659.2			
								0530	2908.9			
								0636	3169.9			
								0736	3368.6			
								0836	3662.8			
								0942	3675.4			
								1006	3580.7			
								1130	3455.2			
								1230	3468.0			
								1442	3525.1			
								1524	3899.1			
								1642	3694.5			
								1754	4074.6			
								1830	4150.3			
								2130	4732.9			
								2400	4784.3			
							9-22	0300	4890.8			
								0600	5017.6			
								0830	5318.4			
								1200	5541.2			
								1324	5622.9			
								1506	5327.6			
								1754	5769.2			
								2054	6080.2			
								2218	6375.2			
								2400	6954.2			
							9-23	0100	7795.6			
								0200	8214.4			
								0300	8758.9			
								0406	9307.6			
								0600	9933.4			
								0800	10434.9			
								0942	10247.0			
								1200	10204.0			
								1454	10141.3			
								1754	9911.1			
								2400	9480.4			
							9-24	0454	9018.0			
								0900	8855.3			
								1200	8726.6			
								1800	8469.9			
								2400	8185.7			
							9-25	0400	7916.0			
								0606	7578.1			
								0800	7059.9			
								0900	6405.4			
								1018	5501.8			
								1100	4687.6			
								1130	4209.9			
								1200	3957.4			
								1236	3725.5			
								1330	3255.8			
								1436	3351.7			

(Continued on next page)

(Continued on next page)

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA			WATERSHED 100		
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$			RUNOFF		
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY
Event of Sept. 20 - Oct. 2, 1965—Continued								
								1530
								1642
								1724
								1900
								2200
								2400
							9-26	0254
								0554
								1200
								1800
							9-27	0600
								1030
								1200
								1600
							9-28	1800
								2400
								0600
								1200
								1500
							9-29	1800
								2400
								0600
								1200
								1800
							9-30	2400
								0600
								1030
								1754
								2400
							10- 1	1200
							10- 2	1200

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE P. 69.1-1, THIS PUBLICATION.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



SEPTEMBER 19 TO OCTOBER 2, 1965

CHICKASHA, OKLAHOMA WATERSHED 100

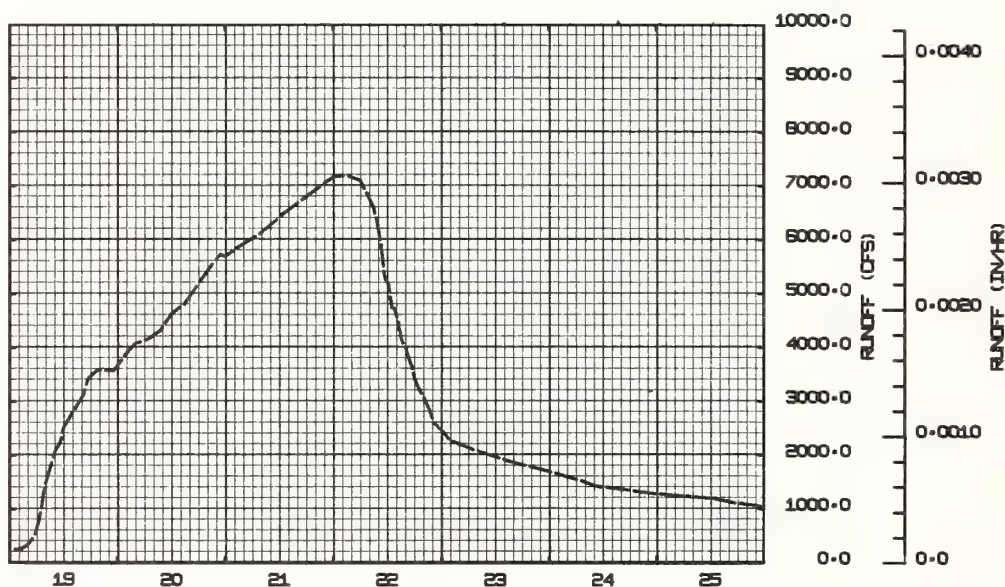
1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of October 19-25, 1965							
Watershed conditions: Not applicable.							10-19	0000	249.9	
								0230	259.1	
								0354	334.6	
								0500	444.1	
								0548	560.8	
								0630	776.6	
								0700	1005.8	
								0724	1271.2	
								0730	1257.0	
								0800	1478.7	
								0842	1657.9	
								0924	1883.1	
								1012	2103.7	
								1118	2241.8	
								1200	2520.7	
								1318	2704.0	
								1448	2903.5	
								1624	3126.2	
								1730	3432.4	
								1924	3582.9	
								2118	3580.7	
								2318	3578.6	
								2400	3667.8	
							10-20	0200	3899.9	
								0400	4077.8	
								0648	4161.2	
								0936	4318.6	
								1200	4622.4	
								1500	4821.2	
								1800	5187.0	
								2000	5424.4	
								2254	5728.2	
								2400	5693.0	
							10-21	0300	5866.5	
								0742	6110.1	
								1236	6455.2	
								1800	6798.8	
								2106	6983.2	
								2400	7174.2	
							10-22	0254	7194.4	
								0554	7103.2	
								0854	6609.3	
								1000	6167.0	
								1048	5703.1	
								1124	5283.7	
								1212	5157.7	
								1254	4753.1	
								1336	4716.9	
								1418	4482.6	
								1506	4126.2	
								1554	4020.6	
								1636	3819.0	
								1724	3626.7	
								1806	3376.2	
								1900	3220.6	
								2006	3059.0	
								2112	2838.5	
								2212	2614.1	
								2400	2450.1	
							10-23	0148	2279.4	
								0354	2212.9	
								0648	2106.7	
								1454	1887.6	
								2400	1699.6	
							10-24	0600	1549.6	

(Continued on next page)



1965      SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 19-25, 1965—Continued							10-25	1036	1423.3	
								2400	1278.8	
								1200	1199.8	
								1800	1107.0	
								2400	1032.9	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE P. 69.1-1, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

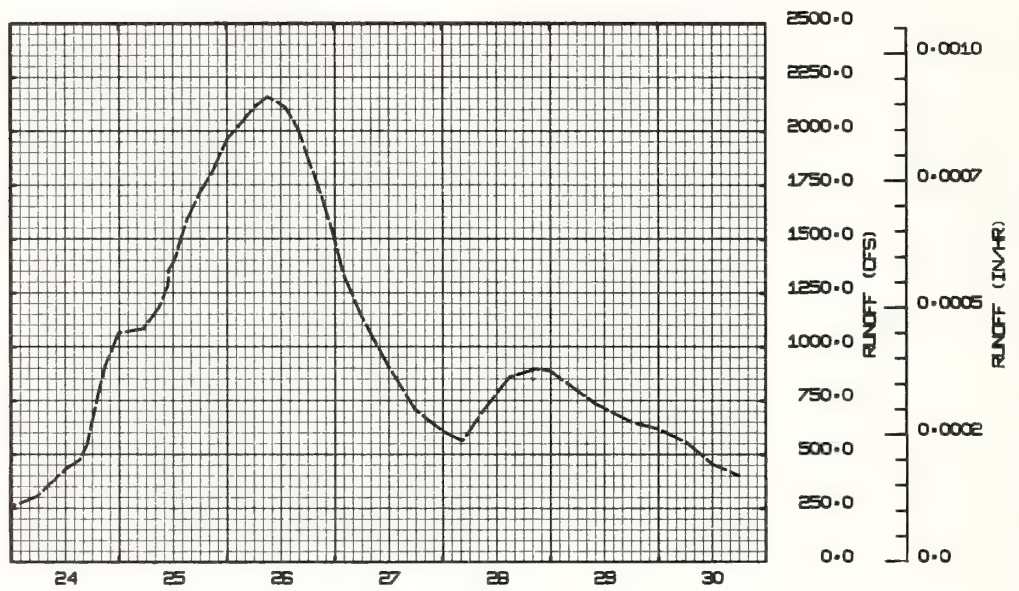


OCTOBER 19-25, 1965

CHICKASHA, OKLAHOMA WATERSHED 100

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 100			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of December 24-30, 1965							12-24	0000	258.8	
Watershed conditions: Not applicable.								0600	307.8	
								1200	429.0	
								1530	478.7	
								1700	548.1	
								1900	736.3	
								2100	909.1	
								2400	1065.9	
							12-25	0530	1083.8	
								0900	1185.8	
								1054	1283.8	
								1106	1354.3	
								1224	1402.6	
								1500	1580.3	
								1800	1714.9	
								2100	1819.3	
								2400	1961.6	
							12-26	0600	2109.2	
								0900	2159.4	
								1030	2145.3	
								1300	2112.5	
								1600	2007.9	
								1800	1883.1	
								2100	1710.9	
								2400	1503.3	
							12-27	0206	1334.0	
								0600	1144.1	
								0848	1037.2	
								1206	908.2	
								1800	710.8	
								2400	610.3	
							12-28	0430	564.8	
								0900	701.6	
								1500	862.2	
								2100	899.0	
								2400	889.1	
							12-29	0954	738.2	
								1800	651.3	
								2400	619.4	
							12-30	0600	560.3	
								1200	456.1	
								1800	402.0	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000004237. FOR 30-DAY ANTECEDENT Q, SEE P. 69.1-1, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE ALL OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



DECEMBER 24-30, 1965

CHICKASHA, OKLAHOMA WATERSHED 100

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 200 AT VERDEN AREA — 2,612,500 ACRES (4,082 SQ. MILES) 1/							
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	P2/ Q	.70 .052	.73 .050	1.19 .052	2.73 .077	4.68 .072	4.28 .176	.64 .029	3.24 .023	6.80 .388	1.60 .423	.04 .100	1.98 .112	28.61 1.554
STA AVG	P3/ Q	.51 .050	.93 .051	1.10 .046	2.22 .058	3.61 .084	4.59 .202	1.44 .039	2.45 .041	5.00 .166	1.49 .146	2.30 .148	1.06 .071	26.70 1.102
MEAN 65 YR	P4/ Q	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-24	.0023	9-24	.0023	9-24	.0046	9-24	.014	9-24	.028	9-23	.055	9-22	.108	9-21	.344

MAXIMUMS FOR PERIOD OF RECORD 5/																
19 61 TO 19 65	9-24 1965	.0023	9-24 1965	.0023	9-24 1965	.0046	9-24 1965	.014	9-24 1965	.028	9-23 1965	.055	9-22 1965	.108	9-21 1965	.344

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1. For Geologic map, see foregoing reference, p. 69.7-9. For revised composite map, see p.69.7-21. 1/ Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/Precipitation data obtained from a Thiessen weighted average of 66 gages for the reach between stations at Anadarko and Verden. 3/Precipitation records began Oct. 1961; runoff records began Sept. 1961. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Sept. 1961.

MISCELLANEOUS DATA														
RUNOFF PEAK DATA: YEAR (1965): Maximum — Sept. 24, 8,410 cfs (27.93 ft). Minimum — Aug. 5, 24 cfs (7.72 ft). PERIOD OF RECORD: Maximum — Sept. 24, 1965, 8,410 cfs (27.93 ft). Minimum — Aug. 2, 1964, 1.2 cfs (7.10 ft). PEAK DISCHARGES: (Above base flow of 3,000 cfs) 1965 — Sept. 24, 8,410 cfs (27.93 ft); Oct. 22, 6,020 cfs (26.55 ft). DAILY TEMPERATURE: See Page 69.7-3.														



1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 200 AT VERDEN						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.05	.00	.01	.00	.00	.84	.00	.00	.00	.00	.00	.02
2	.00	.00	.00	.01	.00	.06	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.06	.00	.01	.00	.00	.14	.00	.00	.00
4	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.00
5	.00	.00	.00	.89	.00	.20	.03	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	1.13	.00	.00	.00	.00
7	.00	.08	.00	.48	.00	.00	.00	.01	.00	.00	.00	.00
8	.00	.12	.00	.01	.25	.00	.00	.00	.00	.00	.02	.00
9	.14	.39	.00	.00	1.38	.00	.02	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.18	.00	.00	.13	.00	.00	.00	.10
11	.00	.10	.96	.00	.00	.06	.00	.00	.00	.00	.00	.06
12	.00	.00	.08	.30	.00	.38	.00	.00	.00	.00	.00	.01
13	.00	.00	.00	.00	1.58	.52	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.13	.01	.00	.00	.26	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.03	.00	.15	.00	.09	.00	.00
16	.00	.00	.11	.00	.00	.00	.00	.09	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.07	1.50	.00	.03
19	.00	.00	.00	.00	.01	.00	.00	.01	2.61	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.10	3.54	.00	.02	.00
21	.45	.00	.00	.00	.00	1.53	.00	.00	.25	.00	.00	.00
22	.04	.00	.00	.00	.00	.15	.00	.00	.01	.00	.00	.00
23	.02	.02	.00	.00	.00	.04	.00	.04	.00	.00	.00	1.21
24	.00	.00	.00	.07	.14	.00	.01	.00	.02	.00	.00	.48
25	.00	.00	.00	.02	.00	.45	.26	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	.32	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.25	.00	.07	.05	.00	.00	.00	.00
28	.00	.02	.00	.00	.54	.00	.25	1.22	.30	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	.00	.00	-----	.02	-----	.00	.03	-----	.00	-----	.06
TOTAL	.70	.73	1.19	2.73	4.68	4.28	.64	3.24	6.80	1.60	.04	1.98
STA AV	.52	.52	1.10	2.22	2.61	4.59	1.44	2.45	5.00	1.49	2.30	1.06

NOTES:

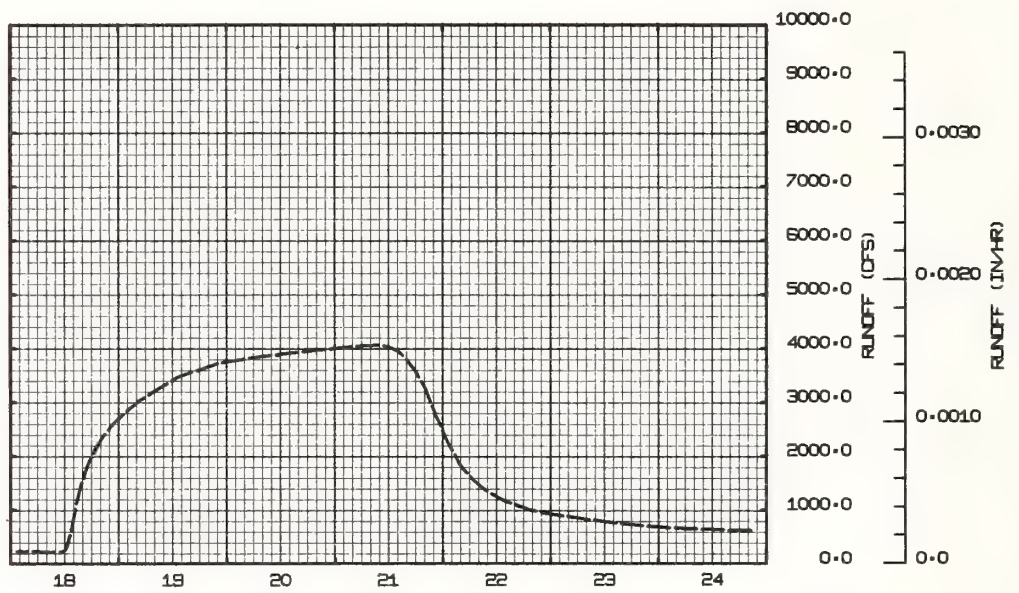
YEARLY PRECIPITATION 29.61 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 66 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 200 AT VERDEN						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	194	159	136	153	147	* 126	* 341	34	37	1960	619	250
2	195	158	142	159	142	170	273	* 34	37	1890	547	243
3	191	155	140	160	137	470	234	28	* 36	1830	519	236
4	* 185	171	137	158	* 131	* 917	207	28	32	* 1780	494	231
5	184	210	135	176	126	674	178	<u>24</u>	32	1720	467	228
6	188	213	132	275	127	338	163	31	30	1680	447	* 226
7	184	213	130	219	125	505	154	48	27	1510	421	226
8	184	216	<u>129</u>	* 220	124	563	141	76	28	1060	* 405	223
9	189	233	* 132	352	200	375	132	53	24	901	388	223
10	191	* 239	133	369	523	274	132	34	24	716	373	220
11	187	239	140	365	275	203	118	* 210	<u>24</u>	671	365	223
12	187	269	169	294	214	170	107	223	43	641	360	225
13	184	282	180	* 538	195	175	* 100	<u>441</u>	* 48	534	352	225
14	182	<u>287</u>	178	380	303	580	88	<u>230</u>	37	449	345	223
15	184	281	178	* 473	* <u>964</u>	* 1200	81	133	30	411	343	225
16	182	269	185	487	781	1110	* 73	89	26	413	340	220
17	181	226	259	<u>759</u>	560	835	70	65	26	<u>397</u>	331	219
18	* 180	181	289	545	491	786	65	53	27	449	326	217
19	180	162	475	350	456	533	* 57	46	34	* 1120	324	216
20	175	158	<u>485</u>	271	396	351	52	42	124	* 3750	322	* 214
21	177	155	184	231	247	258	50	50	* 2480	* 5150	322	211
22	192	150	174	207	201	282	48	61	* 5850	* 5760	* 315	<u>210</u>
23	197	149	163	191	138	422	44	42	* 6420	* 2550	315	213
24	191	146	158	177	119	* 1860	44	36	* 7890	1770	310	274
25	184	146	* 153	171	112	* 1880	40	63	* 7910	* 1470	303	1010
26	184	140	159	169	110	1070	41	57	* 3250	1240	293	<u>1940</u>
27	175	132	158	167	<u>104</u>	1030	37	44	* 2020	1080	287	* 1320
28	170	<u>132</u>	158	160	<u>113</u>	1030	41	131	1980	990	279	690
29	166	-----	159	155	132	696	34	63	2040	921	269	824
30	166	-----	157	151	130	470	30	* 44	2000	852	256	653
31	<u>165</u>	-----	<u>149</u>	-----	<u>121</u>	-----	27	39	-----	747	-----	475
MEAN	183	195	182	283	256	645	103	82	1420	1500	368	398
INCHES	*.052	*.050	*.052	*.077	*.072	*.176	*.029	*.023	*.388	*.423	*.100	*.112

NOTES TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .000009111. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 217,700. YEARLY MEAN DISCHARGE, 468 CFS. YEARLY DISCHARGE, 1,554 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			<u>Event of September 18-24, 1962</u>							
Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.							9-18	0130	234.7	
								0430	229.5	
								0830	219.3	
								1130	216.7	
								1212	255.3	
								1242	350.8	
								1312	528.1	
								1342	733.7	
								1412	949.3	
								1442	1141.4	
								1512	1311.5	
								1542	1473.4	
								1630	1659.3	
								1730	1896.7	
								1900	2143.9	
								2030	2356.8	
								2130	2465.4	
								2300	2619.5	
							9-19	0130	2811.1	
								0430	3018.9	
								0730	3184.3	
								1030	3330.8	
								1330	3482.3	
								1800	3602.5	
								2230	3738.1	
							9-20	0600	3827.2	
								1800	3953.3	
							9-21	0430	4038.2	
								1030	4063.0	
								1242	4001.5	
								1412	3927.8	
								1600	3777.6	
								1800	3556.5	
								2000	3258.7	
								2130	2947.8	
								2230	2739.8	
								2330	2553.3	
							9-22	0030	2352.6	
								0130	2190.6	
								0230	2033.9	
								0330	1881.9	
								0430	1766.2	
								0600	1621.2	
								0800	1458.3	
								1030	1313.2	
								1330	1183.9	
								1630	1087.3	
								1930	1004.1	
								2230	948.5	
							9-23	0300	887.8	
								0900	817.2	
								1500	756.4	
								2100	702.1	
							9-24	0600	654.3	
								1500	625.3	
								2100	616.5	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.2-4.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



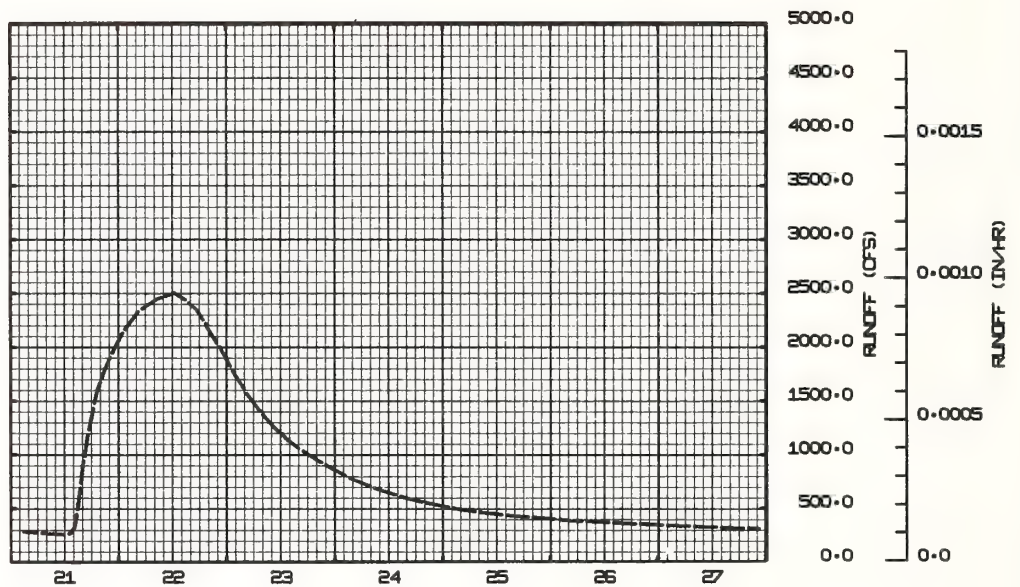
SEPTEMBER 18-24, 1962

CHICKASHA, OKLAHOMA WATERSHED 200

1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL <u>1/</u>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 21-27, 1962										
<p>Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.</p>							10-21	0300	282.9	
								0900	262.9	
								1230	257.8	
								1330	273.3	
								1412	327.4	
								1442	428.5	
								1512	581.4	
								1542	751.3	
								1612	911.4	
								1642	1052.6	
								1730	1230.5	
								1830	1436.9	
								1930	1609.0	
								2100	1792.4	
								2300	1978.0	
							10-22	0130	2170.6	
								0430	2338.4	
								0830	2446.4	
								1230	2505.0	
								1530	2420.2	
								1730	2341.7	
								1930	2207.5	
								2230	2000.3	
							10-23	0130	1777.2	
								0430	1567.7	
								0730	1400.5	
								1030	1258.8	
								1330	1141.6	
								1630	1043.5	
								2100	927.0	
							10-24	0300	786.8	
								0900	683.9	
								1500	606.8	
								2100	543.1	
							10-25	0300	494.3	
								0900	458.1	
								1800	422.2	
							10-26	0300	392.0	
								1500	362.9	
							10-27	1030	326.4	
								2230	309.2	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.2-4. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



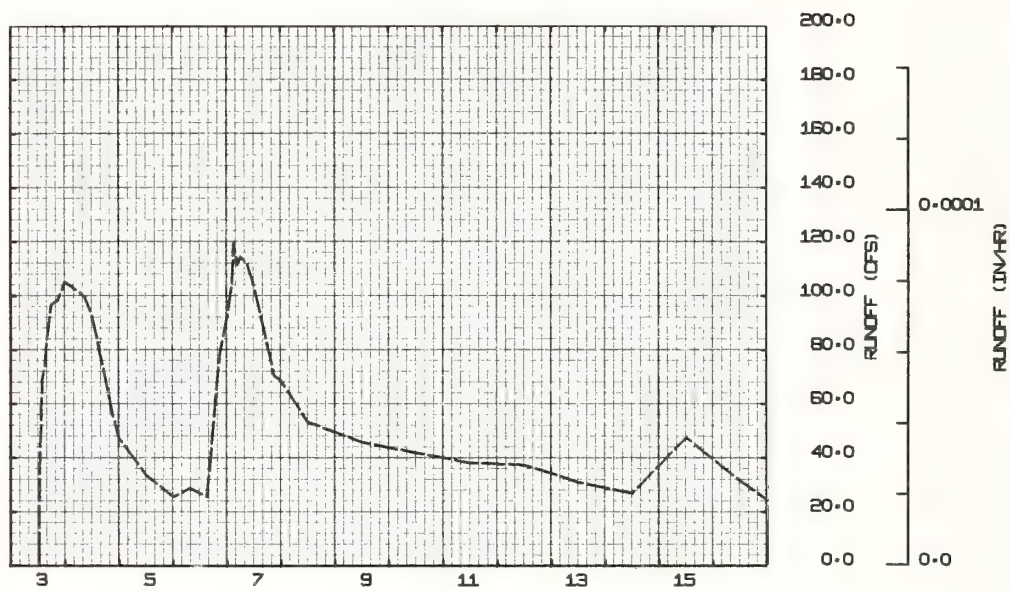


OCTOBER 21-27, 1962

CHICKASHA, OKLAHOMA WATERSHED 200

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF <sup>2/</sup>			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
<u>Event of August 3-17, 1964</u>										
Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.							8- 3	1224	63	
								1230	19.2	
								1300	42.6	
								1330	57.4	
								1400	68.8	
								1500	74.1	
								1600	84.5	
								1800	96.9	
								2100	98.4	
								2400	105.3	
							8- 4	0600	101.7	
								0900	99.4	
								1200	92.7	
								1500	81.1	
								2100	56.8	
								2400	47.3	
							8- 5	1200	33.7	
								2400	25.6	
							8- 6	0730	28.8	
								1500	25.6	
								1700	44.1	
								1900	64.0	
								2100	79.2	
								2400	92.3	
							8- 7	0200	103.4	
								0300	119.5	
								0430	111.4	
								0600	114.4	
								0900	111.8	
								1200	103.6	
								2100	70.6	
								2400	68.6	
							8- 8	1200	53.3	
							8- 9	1200	45.8	
							8-10	1200	41.9	
							8-11	1200	38.1	
							8-12	1200	37.3	
							8-13	1200	30.9	
							8-14	1200	26.9	
							8-15	1200	47.5	
							8-16	1200	31.6	
							8-17	1200	17.3	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.2-2. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED. <sup>2/</sup> THIS STREAMFLOW IS THE RESULT OF UPSTREAM RELEASE OF IRRIGATION WATER FROM THE FORT COBB RESERVOIR, INTO THE DRY STREAM CHANNEL.



AUGUST 3-17, 1964

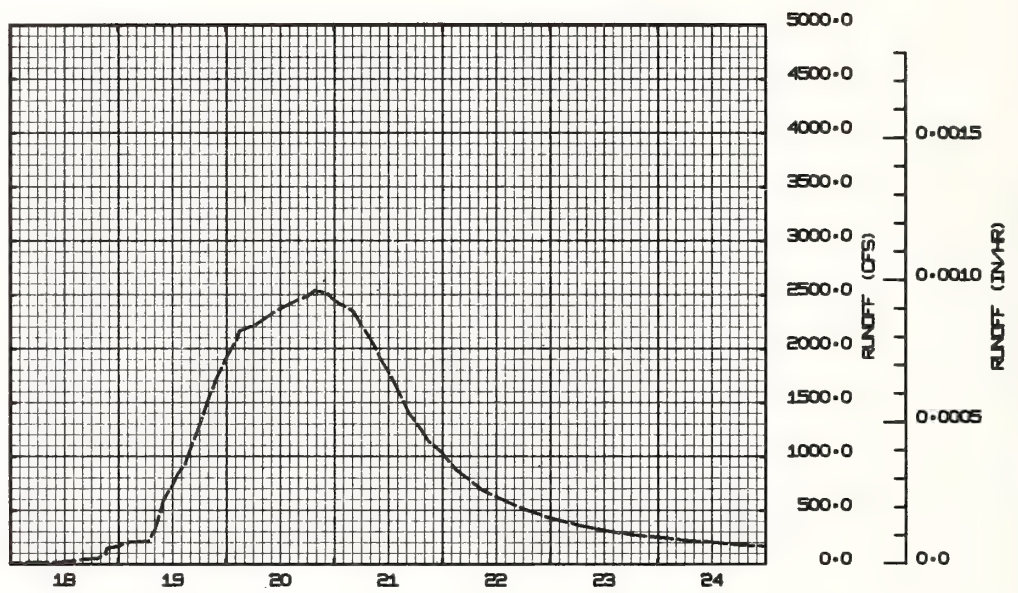
CHICKASHA, OKLAHOMA WATERSHED 200

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 200		
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of August 18-24, 1964											
							8-18	0000	15.7		
								0600	19.5		
								1100	19.5		
								1312	31.2		
								1436	33.8		
Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1								1636	52.3		
								1924	54.3		
								2112	98.8		
								2130	148.4		
								2400	172.1		
							8-19	0242	209.1		
								0612	212.7		
								0642	212.7		
								0800	297.3		
								0848	390.6		
	0924	491.7									
	1000	571.4									
	1100	663.9									
	1200	721.0									
	1324	849.8									
	1500	939.2									
	1630	1111.4									
	1800	1275.5									
	1900	1399.8									
	2024	1572.1									
	2200	1730.9									
	2400	1909.1									
8-20	0248	2123.3									
	0300	2168.5									
	0606	2215.0									
	0918	2299.7									
	1212	2382.5									
	1812	2496.9									
	1936	2540.1									
	2212	2525.1									
	2400	2451.3									
8-21	0418	2346.4									
	0600	2219.9									
	0900	2025.7									
	1024	1895.2									
	1200	1790.3									
	1430	1583.6									
	1642	1400.7									
	1900	1273.0									
	2054	1152.5									
	2400	1032.8									
8-22	0300	886.6									
	0606	787.2									
	0900	690.5									
	1200	630.1									
	1812	514.7									
	2400	434.5									
8-23	0600	370.9									
	1200	320.1									
	1800	279.0									
	2400	254.5									
8-24	0600	226.3									
	1136	211.2									
	1712	185.1									
	2400	171.2									

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.2-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.2-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.





AUGUST 18-24, 1964

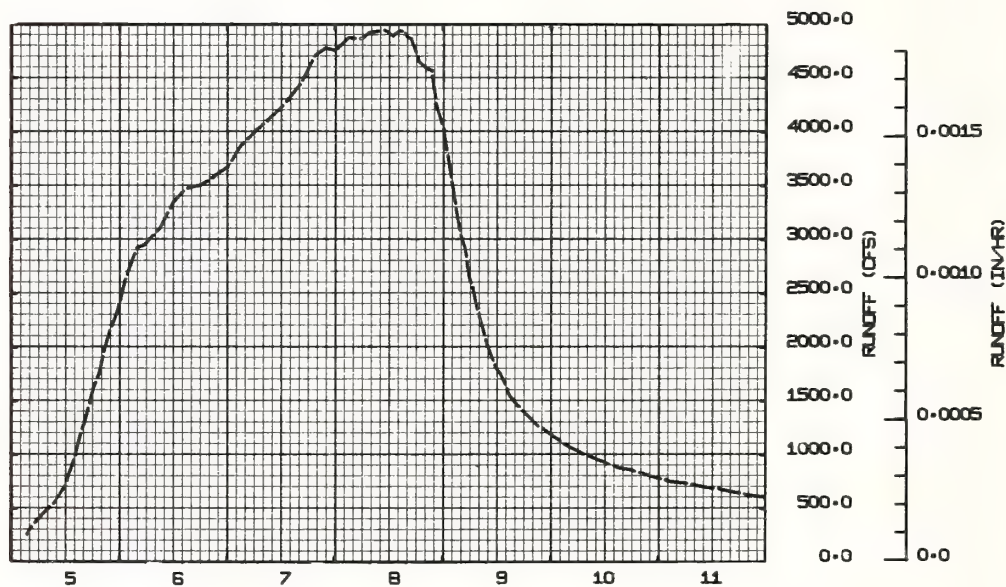
CHICKASHA, OKLAHOMA WATERSHED 200

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 5-11, 1964										
<u>Watershed conditions:</u> The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.							11- 5	0330	261.1	
								0400	299.3	
								0542	389.5	
								0742	479.2	
								0954	573.3	
								1136	697.4	
								1200	714.2	
								1254	831.1	
								1400	962.6	
								1506	1154.0	
								1612	1297.5	
								1718	1469.6	
								1806	1615.6	
								1924	1750.4	
								2030	1952.2	
								2142	2134.6	
								2318	2311.9	
								2400	2414.2	
							11- 6	0130	2653.6	
								0254	2817.4	
								0354	2922.7	
								0524	2951.8	
								0900	3109.5	
								1154	3345.7	
								1454	3478.9	
								1800	3504.3	
								2400	3675.9	
							11- 7	0300	3868.8	
								0600	3993.5	
								1200	4225.1	
								1630	4455.3	
								1930	4704.5	
								2200	4779.6	
								2400	4753.0	
							11- 8	0300	4875.6	
								0600	4862.6	
								0736	4919.0	
								1100	4946.2	
								1300	4888.6	
								1418	4938.6	
								1524	4935.7	
								1600	4884.9	
								1654	4867.3	
								1754	4748.9	
								1842	4650.8	
								2024	4583.3	
								2124	4576.8	
								2230	4261.9	
								2400	4041.1	
							11- 9	0100	3790.1	
								0200	3522.0	
								0248	3315.1	
								0348	3058.2	
								0448	2934.4	
								0548	2658.5	
								0636	2560.5	
								0736	2350.6	
								0848	2192.3	
								0948	2019.3	
								1112	1874.7	
								1148	1809.8	
								1254	1749.6	
								1448	1557.2	
								1630	1464.6	
								1800	1400.4	

(Continued on next page)

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 5-11, 1964 - Continued										
								2100	1276.6	
							11-10	2400	1192.4	
								0300	1098.3	
								0600	1037.2	
								0900	979.8	
								1200	932.1	
								1442	886.5	
								1800	859.1	
								2042	823.5	
								2400	782.1	
							11-11	0300	748.5	
								0654	730.0	
								1100	696.0	
								1300	687.6	
								1500	672.1	
								1800	645.8	
								2000	627.1	
								2400	607.2	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.2-2.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



NOVEMBER 5-11, 1964

CHICKASHA, OKLAHOMA WATERSHED 200

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA			WATERSHED 200					
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of November 18-24, 1964											
<p>Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.</p>						11-18			0148	323.6	
									0300	349.2	
									0400	393.4	
									0500	465.4	
									0536	520.5	
									0630	635.5	
									0742	774.2	
									0848	866.9	
									1030	1002.3	
									1200	1073.4	
									1454	1187.8	
									1754	1284.0	
									2100	1351.1	
									2400	1525.3	
									11-19	0118	1611.6
									0342	1755.3	
									0554	1932.3	
									0854	2159.0	
									1200	2249.5	
									1454	2419.6	
									1630	2460.5	
									1900	2614.7	
									2054	2647.9	
									2218	2664.7	
									2400	2627.3	
									11-20	0418	2634.7
									0600	2664.6	
									0736	2722.6	
									0900	2791.4	
									1200	2854.5	
			1512	2936.3							
			1800	2991.9							
			2000	3015.8							
			2206	3011.1							
			2400	3034.3							
			11-21	0300	2993.6						
			0430	2960.6							
			0600	2908.4							
			0800	2854.0							
			1030	2759.7							
			1200	2679.7							
			1354	2572.3							
			1500	2483.4							
			1636	2413.7							
			1800	2284.8							
			2100	2097.3							
			2400	1887.1							
			11-22	0230	1737.3						
			0400	1659.4							
			0530	1570.2							
			0642	1540.4							
			0942	1358.8							
			1200	1274.6							
			1500	1162.0							
			1800	1082.6							
			2100	994.9							
			2400	926.4							
			11-23	0254	878.4						
			0554	832.2							
			0854	795.0							
			1200	757.1							
			1500	713.2							
			1800	690.9							
			2100	654.1							
			2400	624.5							

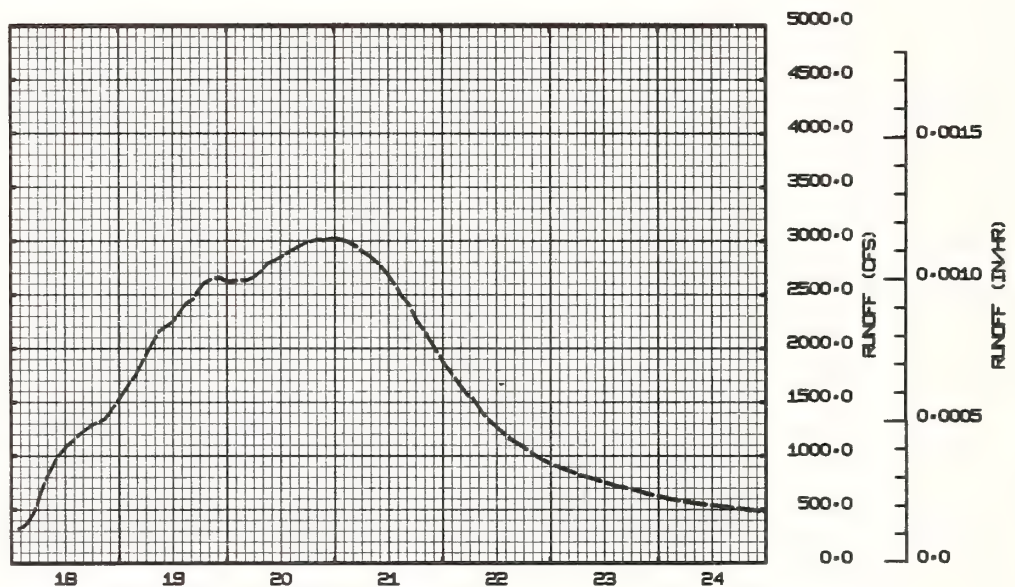
(Continued on next page)

(Continued on next page)



1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of November 18-24, 1964 - Continued				11-24	0300	595.0	
								0600	575.8	
								0854	553.5	
								1200	540.5	
								1454	523.9	
								1800	508.4	
								2054	494.5	
								2400	477.0	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.2-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



NOVEMBER 18-24, 1964

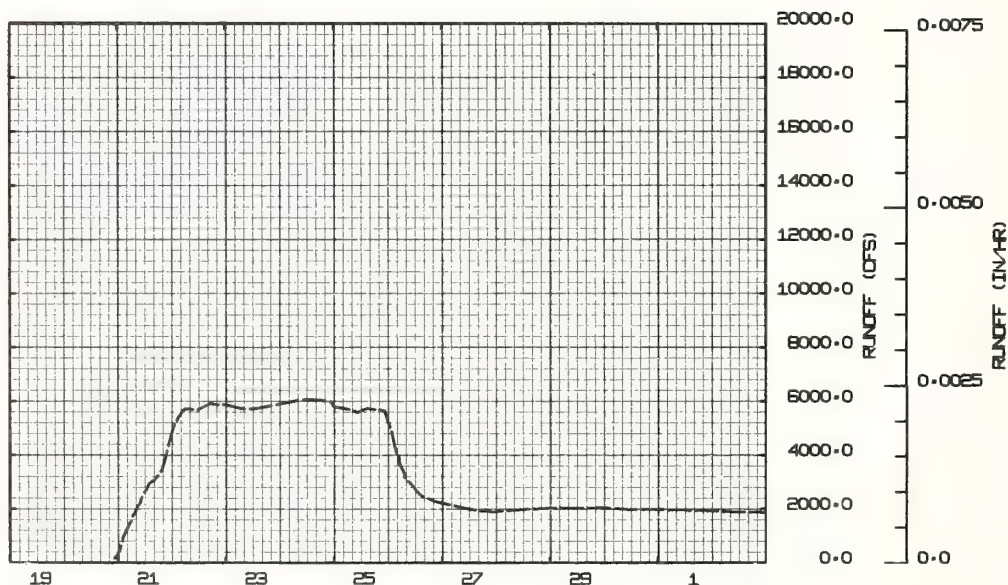
CHICKASHA, OKLAHOMA WATERSHED 200

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 20-October 4, 1965										
Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.							9-20	2230	188.7	
								2330	234.9	
								2400	301.1	
							9-21	0030	411.0	
								0100	509.1	
								0130	629.5	
								0200	768.6	
								0230	950.3	
								0300	1046.8	
								0330	1157.3	
								0400	1252.7	
								0430	1315.8	
								0500	1418.4	
								0530	1496.9	
								0600	1565.9	
								0700	1785.6	
								0800	1889.4	
								0900	2096.4	
								1000	2220.1	
								1100	2469.2	
								1200	2609.1	
								1306	2758.8	
								1400	2912.7	
								1500	3004.9	
								1636	3099.8	
								1800	3231.5	
								1942	3447.7	
								2100	3735.0	
								2206	4122.0	
								2300	4452.0	
							9-22	2400	4782.3	
								0100	5023.7	
								0200	5198.6	
								0300	5377.0	
								0430	5579.8	
								0600	5711.7	
								0830	5721.6	
								1130	5680.9	
								1500	5818.7	
								1736	5918.8	
								2100	5869.4	
								2400	5877.4	
							9-23	0600	5762.5	
								0900	5723.0	
								1200	5710.8	
								1754	5801.8	
								2400	5897.7	
							9-24	0600	6005.7	
								1206	6074.2	
								1806	6062.8	
								2300	5971.5	
								2400	5804.0	
							9-25	0606	5712.1	
								1036	5589.7	
								1200	5641.4	
								1500	5742.8	
								2230	5645.2	
								2400	5264.0	
							9-26	0100	5037.3	
								0200	4784.5	
								0300	4387.9	
								0342	4112.0	
								0430	3989.2	
								0524	3673.0	
								0554	3528.2	

(Continued on next page)

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of Sept. 20 - Oct. 4, 1965 - Continued							
								0700	3408.4	
								0730	3162.9	
								0830	3145.2	
								0930	2971.9	
								1036	2909.8	
								1200	2733.0	
								1324	2598.1	
								1454	2485.9	
								1800	2385.7	
								2100	2274.5	
							9-27	2400	2210.3	
								0600	2105.3	
								1200	1994.2	
								1800	1917.8	
								2400	1892.6	
							9-28	1200	1986.8	
								2400	2034.6	
							9-29	1200	2030.9	
								2400	2060.5	
							9-30	1200	1986.8	
								2400	1975.9	
							10- 1	1200	1957.7	
							10- 2	1200	1889.1	
							10- 3	1200	1832.1	
							10- 4	1200	1775.8	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE P. 69.2-2, THIS PUBLICATION.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



SEPTEMBER 19 TO OCTOBER 4, 1965

CHICKASHA, OKLAHOMA WATERSHED 200

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 19-25, 1965										
<p>Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.</p>							10-19	0500	479.1	
								1130	477.1	
								1230	509.2	
								1254	579.3	
								1318	632.5	
								1348	780.7	
								1418	948.4	
								1442	1072.6	
								1506	1212.5	
								1530	1356.7	
								1548	1568.3	
								1600	1589.1	
								1606	1191.8	
								1642	1529.3	
								1718	1724.1	
								1806	1895.0	
								1854	2053.6	
								1942	2236.2	
								2030	2394.2	
								2142	2522.5	
								2254	2482.9	
								2400	2883.7	
							10-20	0048	2935.4	
								0130	3042.9	
								0312	3172.5	
								0506	3342.5	
								0648	3539.0	
								0848	3645.9	
								0906	3768.1	
								1200	3835.1	
								1300	3877.1	
								1512	3955.9	
								1654	4116.8	
								2300	4299.7	
								2400	4451.9	
							10-21	0212	4538.8	
								0524	4700.8	
								1024	4909.3	
								1500	5110.8	
								2400	5342.7	
							10-22	0600	5451.9	
								1200	5495.9	
								1600	5457.4	
								1800	5501.3	
								1930	5405.9	
								2100	5186.2	
								2200	4956.2	
								2230	4816.8	
								2318	4682.1	
								2400	4367.9	
							10-23	0030	4223.1	
								0054	4187.2	
								0142	3935.5	
								0218	3626.0	
								0306	3561.3	
								0348	3290.7	
								0436	3190.2	
								0518	2984.2	
								0606	2830.9	
								0700	2700.2	
								0806	2576.3	
								0918	2443.9	
								1100	2310.4	
								1324	2171.1	
								1654	2075.5	

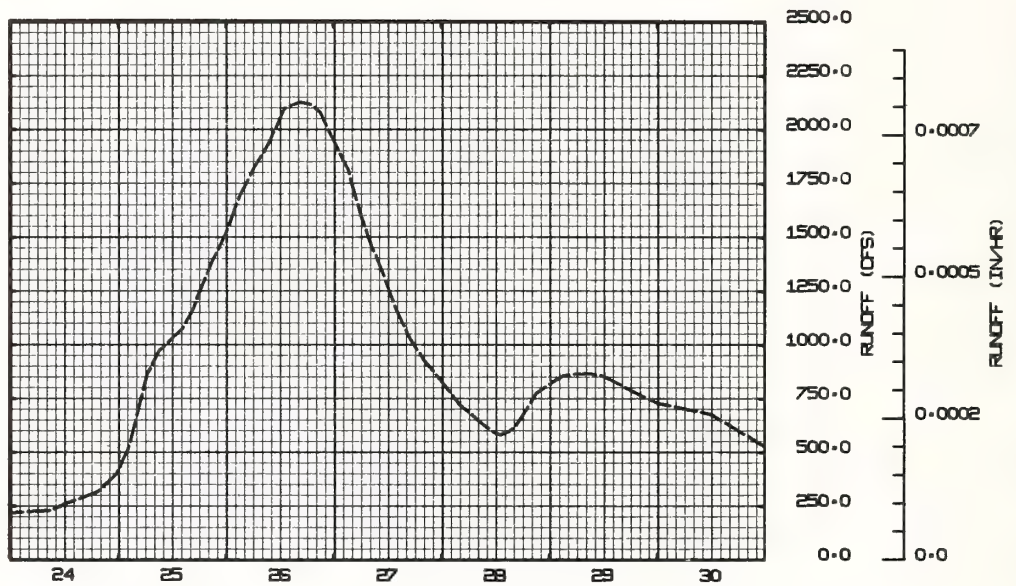
(Continued on next page)





1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 200			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of December 24-30, 1965							12-24	0000	220.3	
								0854	229.4	
								1200	259.4	
								1924	316.7	
								2330	401.2	
Watershed conditions: The land use of this 4,082 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.2-1.								2400	421.6	
							12-25	0200	509.8	
								0330	619.3	
								0454	741.6	
								0624	863.8	
								0900	971.9	
								1418	1078.2	
								1636	1162.0	
								1806	1250.0	
								2048	1382.8	
							12-26	2400	1521.4	
								0300	1693.4	
								0618	1825.0	
								0936	1939.6	
								1300	2097.9	
								1630	2127.9	
								1854	2118.2	
								2100	2080.8	
							12-27	2400	1946.6	
								0312	1814.4	
								0554	1612.2	
								0842	1445.7	
								1112	1317.1	
								1348	1170.9	
								1648	1037.5	
								2006	930.8	
							12-28	2400	830.6	
								0400	722.7	
								0948	620.9	
								1200	589.7	
								1306	582.1	
								1500	597.8	
								1624	623.9	
								1800	672.1	
								2100	774.4	
							12-29	2400	819.0	
								0300	856.4	
								0600	866.1	
								0900	867.3	
								1200	855.1	
								1800	789.7	
								2400	730.0	
							12-30	1200	677.0	
								1800	602.7	
								2400	527.6	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003796. FOR 30-DAY ANTECEDENT Q, SEE P. 69.2-2, THIS PUBLICATION. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



DECEMBER 24-30, 1965

CHICKASHA, OKLAHOMA WATERSHED 200

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA AREA — 2,725,800 ACRES		WATERSHED 400 NEAR CHICKASHA (4,259 SQ. MILES)								
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sup>1/</sup> Q	.86 .047	.71 .044	1.17 .050	3.18 .079	3.46 .073	3.58 .165	.89 .029	4.78 .030	2.98 .331	1.53 .393	.03 .101	1.31 .110	24.48 1.452			
STA AVG (61-65) P <sup>2/</sup> Q	.56 .052	.98 .051	1.29 .048	2.50 .059	3.11 .082	3.68 .204	1.41 .038	2.86 .040	3.07 .145	1.31 .135	2.61 .140	1.01 .070	24.39 1.064			
MEAN 65 YR P <sup>3/</sup>	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-25	.0025	9-25	.0025	9-25	.0050	9-25	.015	9-25	.029	9-24	.057	9-23	.109	9-22	.298
MAXIMUMS FOR PERIOD OF RECORD <sup>4/</sup>																
19 61 TO 19 65	9-25 1965	.0025	9-25 1965	.0025	9-25 1965	.0050	9-25 1965	.015	9-25 1965	.029	9-24 1965	.057	9-23 1965	.109	9-22 1965	.298
Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.4-1. For Geologic Map, See Foregoing Reference, p. 69.7-9. For revised Composite Map, see p. 69.7-21. <sup>1/</sup> Precipitation data obtained from a Thiessen weighted average of 33 gages on the watershed reach between stations at Verden and Chickasha. <sup>2/</sup> Precipitation records began Oct. 1961; runoff records began Oct. 1961. <sup>3/</sup> Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. <sup>4/</sup> Period of record began Oct. 1961.																
MISCELLANEOUS DATA																
<u>RUNOFF PEAK DATA:</u> YEAR (1965): Maximum — Sept. 26, 6,902 cfs (26.33 ft). Minimum — Sept. 17, 20 cfs (7.49 ft). PERIOD OF RECORD: Maximum — Sept. 26, 1965, 6,902 cfs (26.33 ft). Minimum — Aug. 1, 1964, no flow (6.45 ft) PEAK DISCHARGES: (Above base flow of 3,000 cfs) 1965 — Sept. 26, 6,902 cfs (26.33 ft); Oct. 23, 5,254 cfs (24.24 ft).																
<u>DAILY TEMPERATURE:</u> See Page 69.7-3																



1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 400 NEAR CHICKASHA						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.08	.00	.00	.00	.00	.63	.00	.00	.00	.00	.00	.01
2	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.07	.00	.00	.00	.00	.06	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
5	.00	.00	.00	.80	.00	.17	.04	.00	.00	.00	.01	.00
6	.00	.00	.00	.00	.00	.00	.00	1.23	.00	.00	.00	.00
7	.00	.09	.00	.26	.00	.00	.00	.93	.00	.00	.00	.00
8	.01	.20	.00	.30	.01	.00	.00	.00	.00	.00	.00	.00
9	.14	.33	.00	.00	.92	.00	.25	.00	.00	.00	.00	.00
10	.00	.00	.00	.01	.14	.00	.00	.32	.00	.00	.00	.13
11	.00	.02	1.00	.00	.00	.03	.00	.00	.00	.00	.00	.03
12	.00	.00	.00	.00	.00	.37	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.68	.50	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.58	.01	.00	.00	.05	.00	.00	.00	.00
15	.00	.00	.00	.00	.60	.00	.00	.30	.00	.13	.00	.00
16	.00	.00	.05	.00	.00	.00	.00	.04	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.45	.00	.00	.00
18	.00	.00	.00	.00	.02	.00	.00	.00	.17	1.39	.00	.01
19	.00	.00	.00	.00	.01	.00	.00	.03	1.10	.01	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.09	.30	.00	.02	.00
21	.51	.00	.00	.00	.00	1.33	.00	.00	.85	.00	.00	.00
22	.12	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.00
23	.00	.02	.00	.00	.00	.00	.00	.05	.00	.00	.00	.38
24	.00	.00	.00	.07	.24	.06	.07	.00	.00	.00	.00	.72
25	.00	.00	.04	.01	.00	.27	.18	.00	.00	.00	.00	.00
26	.00	.00	.00	.08	.38	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.34	.00	.11	.15	.00	.00	.00	.00
28	.00	.05	.00	.00	.67	.00	.23	1.53	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	.00	.00	.00	.04	-----	.00	.01	-----	.00	-----	.03
TOTAL	.26	.71	1.17	3.18	3.46	3.58	.59	4.75	2.98	1.53	.03	1.31
STAAV	.56	.98	1.29	2.50	3.11	3.68	1.41	2.86	3.07	1.31	2.61	1.01

NOTES:

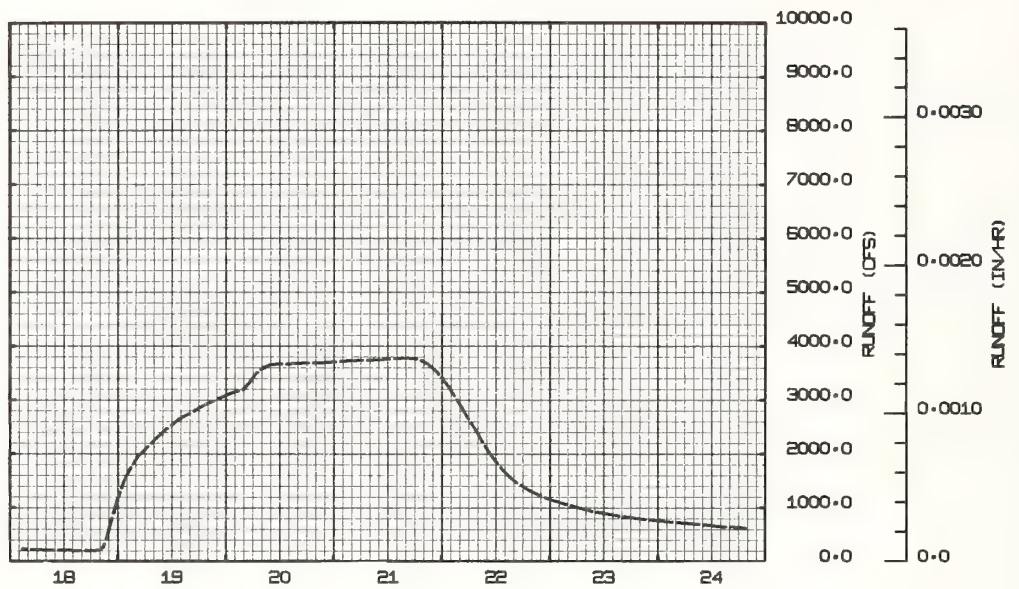
YEARLY PRECIPITATION 24.48 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 33 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 400 NEAR CHICKASHA						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	185	153	140	144	157	158	374	30	44	1970	619	283
2	185	149	139	148	151	204	* 294	32	41	1940	542	* 273
3	183	148	143	152	146	294	241	30	* 41	1870	518	272
4	178	145	* 143	151	* 142	723	215	24	39	1830	* 508	267
5	178	175	141	155	138	* 833	191	23	36	* 1750	488	264
6	178	191	140	* 271	134	474	168	26	34	1690	470	263
7	178	193	140	249	129	342	157	79	32	1610	450	262
8	177	193	139	417	126	611	143	* 700	30	1160	431	262
9	174	199	* 140	304	132	439	125	111	29	931	417	263
10	* 180	211	142	298	404	336	128	80	26	752	403	263
11	178	212	150	341	343	261	123	60	25	654	390	256
12	* 173	217	164	279	217	208	111	245	25	612	383	253
13	174	250	180	377	195	194	* 108	281	* 41	535	374	253
14	173	254	186	463	206	222	97	299	41	451	368	253
15	173	257	183	* 862	582	* 1100	84	165	32	376	363	248
16	171	253	188	502	855	1120	75	115	25	356	360	246
17	169	232	218	605	* 633	910	69	* 84	20	337	346	244
18	168	192	267	668	531	749	69	65	27	347	337	241
19	166	162	342	431	488	646	60	56	31	422	337	238
20	167	153	492	317	460	435	* 49	50	42	* 2790	331	238
21	167	152	322	270	351	325	45	47	1140	4470	327	238
22	* 175	146	198	236	275	428	42	57	3910	5030	324	237
23	181	145	180	215	207	370	* 37	59	* 5040	4460	322	236
24	180	141	167	202	168	* 1090	33	46	5500	1920	321	258
25	173	141	* 159	186	154	* 2170	39	42	6010	1440	318	571
26	171	140	155	183	154	1190	37	62	6520	1170	313	1530
27	167	141	158	181	152	879	36	54	2970	999	303	1630
28	162	135	158	172	172	996	33	* 327	2060	899	298	772
29	158	-----	154	168	181	723	34	147	2070	821	290	740
30	158	-----	151	159	171	501	27	50	2040	759	289	693
31	154	-----	148	-----	160	-----	26	47	-----	707	-----	527
MEAN	173	181	185	304	268	631	105	113	1264	1453	385	406
INCHES	.047	.044	.050	.079	.073	.165	.029	.030	.331	.393	.101	.110

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .000008732. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 227,150. YEARLY MEAN DISCHARGE, 456 CFS. YEARLY DISCHARGE, 1.452 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1962 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of September 18-24, 1962							
Watershed conditions: The land use of this 4,259 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.4-1							9-18	0300	227.7	
								1200	207.4	
								1842	199.3	
								2000	210.8	
								2042	268.3	
								2112	363.5	
								2200	578.3	
								2242	817.2	
								2312	974.2	
								2342	1111.8	
							9-19	0030	1294.2	
								0130	1514.2	
								0230	1688.9	
								0330	1820.9	
								0430	1952.9	
								0600	2080.3	
								0800	2245.4	
								1030	2437.0	
								1330	2635.6	
								1630	2784.2	
								1930	2918.8	
							9-20	2230	3027.4	
								0130	3141.0	
								0342	3196.3	
								0512	3330.4	
								0642	3495.9	
								0812	3603.2	
								1000	3659.2	
								1200	3666.6	
								1530	3677.2	
							9-21	2100	3694.2	
								0730	3743.1	
								1630	3776.1	
								1900	3750.0	
								2100	3656.0	
							9-22	2300	3507.3	
								0130	3250.7	
								0400	2918.9	
								0600	2641.1	
								0800	2371.8	
								0930	2141.8	
								1030	2025.1	
								1130	1902.4	
								1230	1796.6	
								1330	1695.3	
								1500	1572.4	
								1700	1434.1	
								1930	1312.2	
							9-23	2230	1190.6	
								0300	1069.0	
								0900	935.3	
								1500	845.9	
							9-24	2100	781.1	
								0300	729.9	
								0900	690.0	
								1330	653.1	
								1930	620.3	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.4-4.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



SEPTEMBER 18-24, 1962

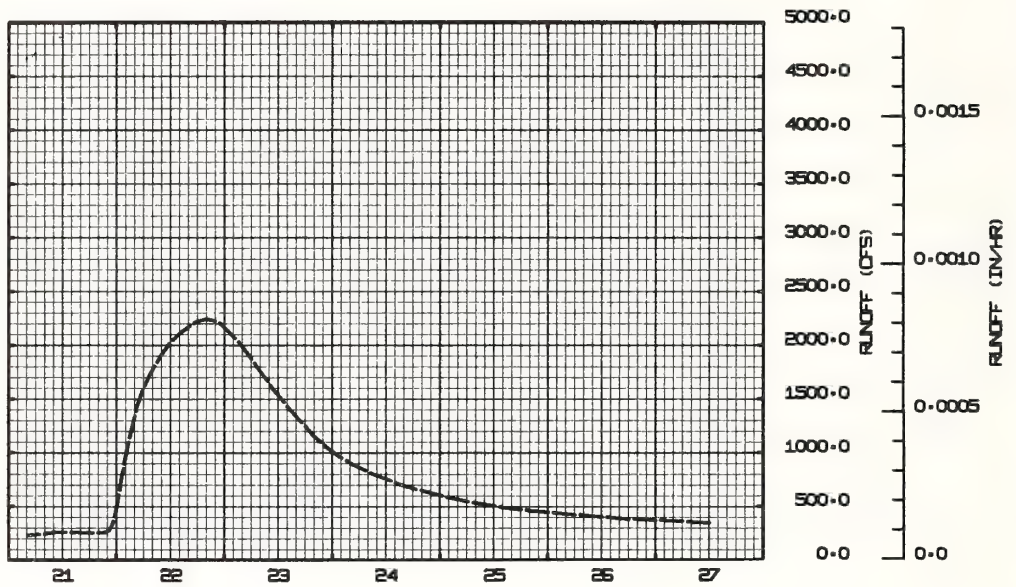
CHICKASHA, OKLAHOMA WATERSHED 400

1962 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 21-27, 1962										
							10-21	0430	227.8	
								1030	258.1	
								1330	263.3	
								1800	256.7	
								2130	254.0	
								2230	273.6	
								2312	334.3	
							10-22	2342	414.1	
								0012	515.8	
								0042	639.6	
								0112	766.3	
								0142	875.8	
								0212	990.2	
								0242	1095.7	
								0330	1225.3	
								0430	1404.5	
								0530	1534.3	
								0630	1634.8	
								0730	1726.2	
								0830	1803.5	
								1000	1903.7	
								1200	2029.9	
								1430	2123.6	
								1730	2215.2	
								2000	2245.9	
								2130	2231.6	
								2230	2214.0	
								2330	2185.6	
							10-23	0130	2105.6	
								0430	1960.1	
								0730	1787.2	
								1030	1612.3	
								1330	1452.3	
								1630	1310.2	
								1930	1172.3	
								2230	1057.0	
							10-24	0130	964.2	
								0430	888.4	
								0900	801.8	
								1500	705.7	
								2100	632.9	
							10-25	0300	572.6	
								0900	523.6	
								1500	485.7	
								2100	457.1	
							10-26	0600	421.8	
								1800	382.5	
							10-27	1200	345.4	

Watershed conditions: The land use of this 4,259 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.4-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.4-4.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE THE AREA IN WHICH PRECIPITATION IS MEASURED.





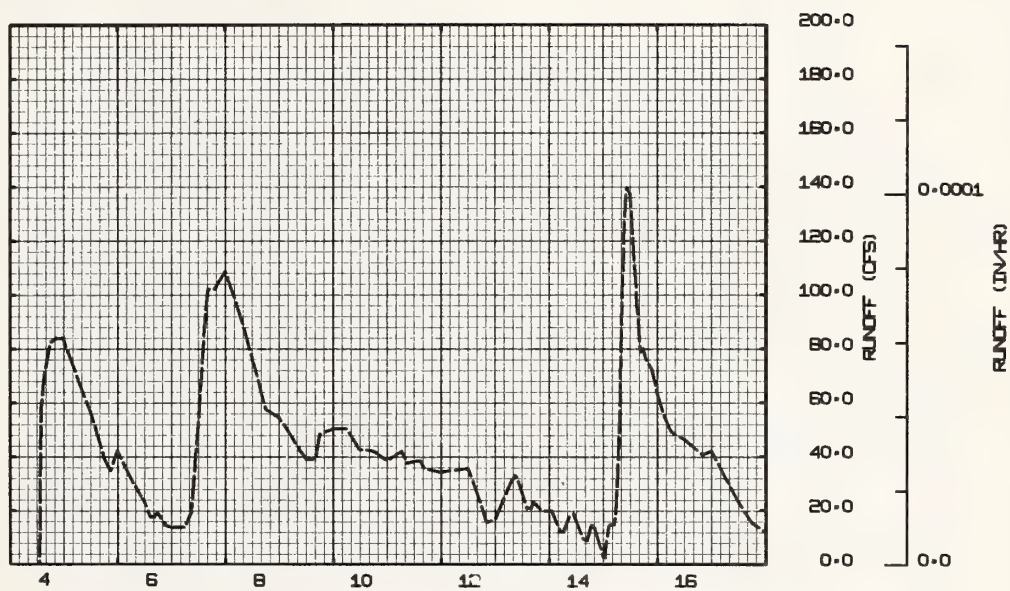
OCTOBER 21-27, 1962

CHICKASHA, OKLAHOMA WATERSHED 400

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of August 4-17, 1964										
							8- 4	1306	1.1	
								1318	7.0	
								1336	37.2	
								1400	57.8	
								1512	68.2	
								1642	76.9	
								1800	82.5	
								2100	84.0	
								2400	84.0	
							8- 5	0042	81.7	
								1200	56.8	
								1800	39.8	
								2100	34.9	
								2400	42.2	
							8- 6	0612	31.7	
								1212	23.1	
								1436	17.6	
								1618	17.7	
								1706	18.8	
								1818	18.8	
								2106	14.7	
								2400	13.8	
							8- 7	0206	13.8	
								0600	13.8	
								0854	19.4	
								1200	52.0	
								1448	88.3	
								1618	102.3	
								1918	102.3	
								2400	108.7	
							8- 8	0606	94.0	
								1206	76.3	
								1800	57.7	
								2400	54.4	
							8- 9	0612	46.5	
								0900	42.7	
								1206	39.1	
								1600	39.1	
								1806	48.4	
								2400	50.4	
							8-10	0606	50.4	
								1130	42.8	
								1800	42.0	
								2400	38.4	
							8-11	0630	42.0	
								0854	37.6	
								1324	38.4	
								1454	38.4	
								1630	35.5	
								2400	34.3	
							8-12	1206	35.7	
								1900	18.8	
								2006	15.6	
								2400	16.7	
							8-13	0712	31.0	
								0900	33.0	
								1054	29.6	
								1400	20.9	
								1554	20.9	
								1706	23.2	
								2054	19.8	
								2400	19.8	
							8-14	0118	19.8	
								0454	12.1	
								0618	12.1	
(Continued on next page)										

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF <sup>2/</sup>			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of August 4-17, 1964 - Continued					0854	17.8	
								1054	18.8	
								1454	9.6	
								1654	8.8	
								1842	14.4	
								1936	14.8	
								2400	2.9	
							8-15	0042	2.4	
								0054	5.7	
								0230	14.1	
								0312	14.8	
								0448	14.8	
								0530	17.9	
								0630	34.7	
								0736	60.5	
								0830	99.6	
								0930	128.3	
								1018	139.6	
								1100	138.8	
								1200	137.2	
								1330	116.0	
								1500	96.6	
								1630	78.9	
								1742	80.1	
								1900	76.0	
								2142	72.4	
							8-16	2400	63.4	
								0300	55.0	
								0600	49.4	
								0942	47.3	
								1200	46.5	
								2000	40.6	
							8-17	2400	42.0	
								0600	32.3	
								1200	23.1	
								1754	15.3	
								2400	11.6	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.4-2. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE THE AREA IN WHICH PRECIPITATION IS MEASURED. <sup>2/</sup> THIS STREAM-FLOW IS THE RESULT OF UPSTREAM RELEASE OF IRRIGATION WATER FROM THE FORT COBB RESERVOIR, INTO THE DRY STREAM CHANNEL.



AUGUST 4-17, 1964

CHICKASHA, OKLAHOMA WATERSHED 400

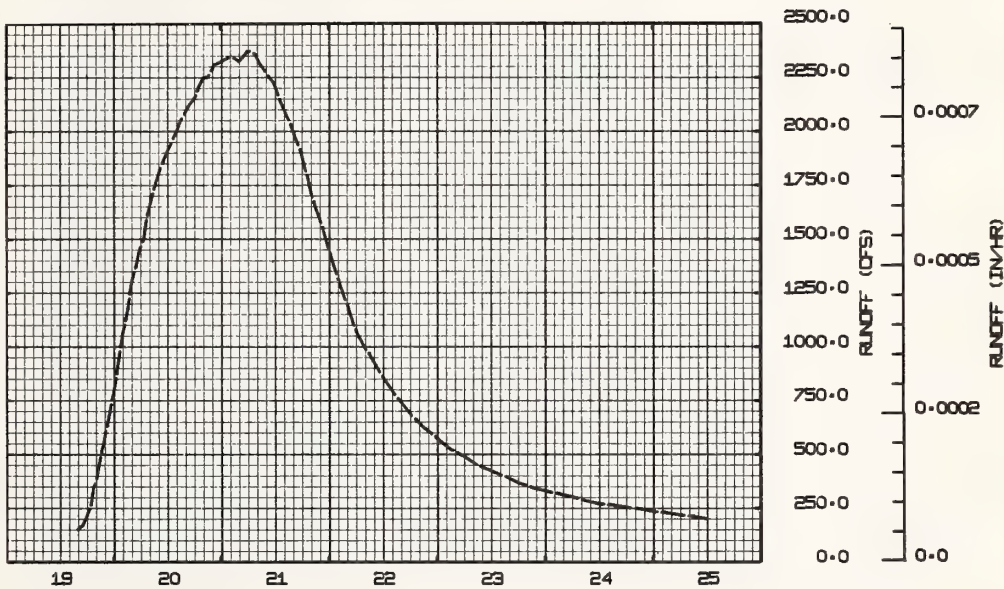


1964			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA		WATERSHED 400		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
			Event of August 19-25, 1964								
							8-19	0254	17.2		
								0512	16.2		
								0848	16.2		
								1000	18.3		
								1054	22.2		
								1200	35.8		
								1254	61.8		
								1400	99.9		
								1454	128.5		
								1600	152.9		
								1700	171.6		
								1800	218.7		
								1836	249.9		
								1900	280.0		
								1930	347.4		
								1954	367.1		
								2048	459.3		
								2148	566.7		
								2300	692.5		
								2400	794.7		
							8-20	0106	941.6		
								0154	1056.9		
								0306	1176.1		
								0400	1299.5		
								0500	1382.6		
								0548	1453.9		
								0642	1499.1		
								0730	1607.8		
								0900	1731.8		
								1030	1831.8		
								1200	1909.0		
								1400	1998.0		
								1500	2052.6		
								1700	2128.6		
								1800	2151.7		
								1900	2201.4		
								2000	2250.5		
								2100	2251.7		
								2230	2306.6		
								2400	2325.0		
							8-21	0200	2344.1		
								0300	2342.4		
								0400	2326.2		
								0454	2345.9		
								0554	2373.4		
								0654	2372.9		
								0736	2359.2		
								0830	2320.8		
								1154	2219.1		
								1324	2130.0		
								1524	2037.4		
								1730	1922.8		
								1900	1808.3		
								2000	1715.1		
								2212	1576.9		
							8-22	2400	1452.1		
								0200	1313.9		
								0354	1207.5		
								0600	1075.6		
								0800	994.7		
								0900	967.2		
								1200	860.6		
								1500	769.0		
								1800	691.3		
								2100	628.3		
(Continued on next page)											

1964			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
			Event of August 19-25, 1964—Continued				8-23	2400	576.2					
								0300	525.1					
								0600	491.4					
								0900	450.8					
								1200	424.8					
								1500	398.3					
								1800	370.5					
								2100	347.6					
								2400	332.4					
							8-24	1200	273.5					
							8-25	1200	202.7					

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.4-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.4-2.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



AUGUST 19-25, 1964

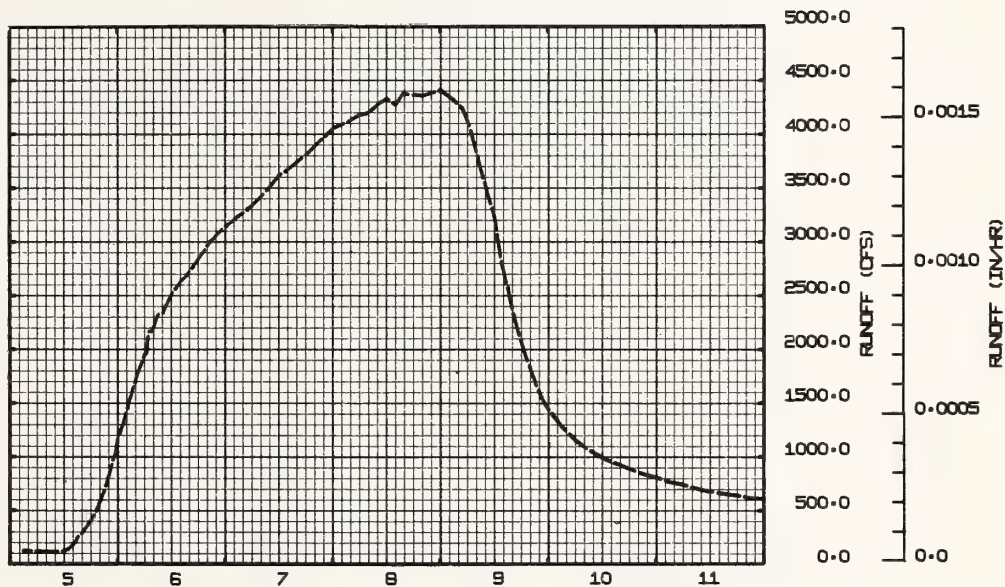
CHICKASHA, OKLAHOMA WATERSHED 400

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 5-11, 1964										
Watershed conditions: The land use of this 4,259 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.4-1.							11- 5	0300	127.4	
								0600	118.3	
								0754	116.3	
								0924	112.8	
								1042	116.8	
								1200	120.2	
								1306	142.3	
								1436	206.9	
								1500	241.6	
								1554	281.6	
								1730	369.3	
								1854	454.6	
								2006	569.1	
								2106	684.3	
								2212	834.7	
								2306	973.7	
								2330	1019.7	
								2400	1151.9	
							11- 6	0118	1312.1	
								0230	1499.3	
								0306	1575.0	
								0430	1758.6	
								0600	1945.8	
								0636	1972.6	
								0700	2169.2	
								0748	2168.0	
								0900	2321.7	
								1012	2340.5	
								1200	2509.4	
								1400	2628.8	
								1536	2695.9	
								1800	2842.2	
								2036	2999.2	
								2312	3112.5	
								2400	3136.5	
							11- 7	0230	3223.6	
								0524	3316.2	
								0712	3389.3	
								0936	3494.9	
								1200	3617.9	
								1436	3695.3	
								1800	3811.8	
								2106	3938.0	
								2400	4056.0	
							11- 8	0254	4105.8	
								0542	4173.4	
								0730	4189.3	
								1000	4274.1	
								1200	4329.6	
								1406	4271.4	
								1536	4374.7	
								1754	4366.4	
								2000	4357.4	
								2400	4408.5	
							11- 9	0300	4312.6	
								0500	4237.5	
								0654	4033.2	
								0900	3685.1	
								1030	3463.7	
								1218	3212.2	
								1318	2907.7	
								1418	2708.0	
								1524	2527.1	
								1624	2318.7	
								1730	2148.0	

(Continued on next page)

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 5-11, 1964—Continued								1848	1976.7	
								2012	1823.8	
								2136	1656.4	
								2318	1501.3	
								2400	1452.7	
							11-10	0300	1288.7	
								0600	1161.8	
								0900	1063.4	
								1200	992.6	
								1500	938.3	
								1800	888.9	
								2100	839.9	
								2400	811.9	
							11-11	0300	765.3	
								0600	740.6	
								0854	703.4	
								1200	677.1	
								1500	656.4	
								1800	640.6	
								2100	614.7	
								2400	610.0	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.4-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



NOVEMBER 5-11, 1964

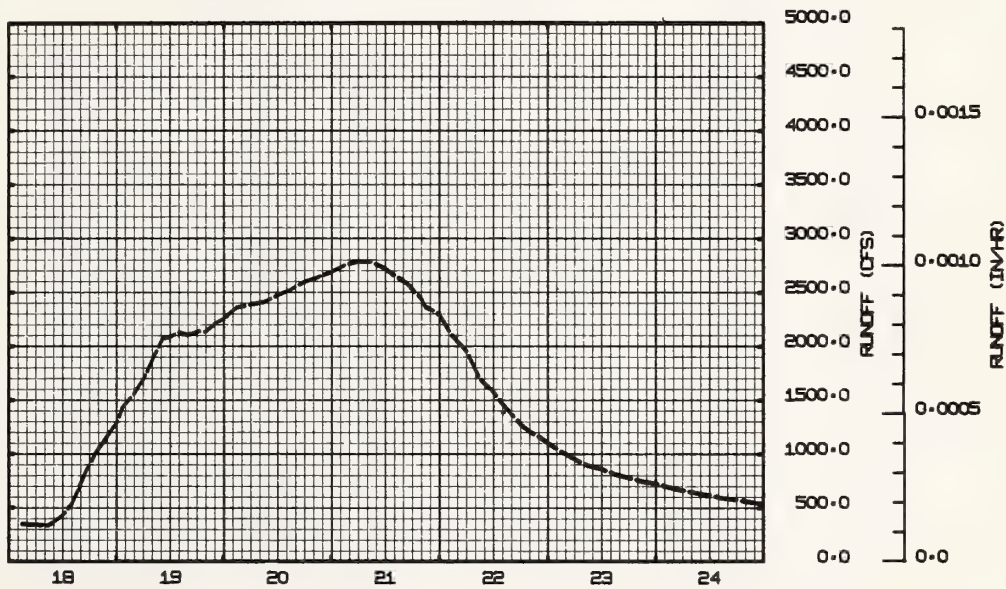
CHICKASHA, OKLAHOMA WATERSHED 400



1964			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA		WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of November 18-24, 1964							11-18	0300	351.7			
								0554	345.3			
								0842	336.4			
								0942	358.9			
								1200	422.7			
								1400	530.4			
								1518	640.1			
								1654	810.0			
								1800	893.4			
								1912	993.8			
Watershed conditions: The land use of this 4,259 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.4-1.								2154	1157.0			
								2000	1050.6			
								2400	1282.7			
							11-19	0130	1433.4			
								0412	1574.1			
								0600	1689.4			
								0836	1926.5			
								1030	2078.8			
								1200	2085.6			
								1354	2133.6			
								1600	2106.4			
								1830	2137.6			
								2000	2137.0			
								2200	2211.8			
								2400	2259.6			
							11-20	0300	2362.7			
								0600	2388.5			
								0912	2414.8			
								1200	2475.4			
								1506	2531.5			
								1806	2597.8			
								2100	2641.6			
								2400	2692.2			
							11-21	0300	2753.1			
								0554	2786.1			
								0854	2786.5			
								1200	2721.2			
	1324	2675.7										
	1454	2635.3										
	1654	2580.5										
	1754	2536.0										
	1954	2447.2										
	2054	2367.5										
	2400	2296.6										
11-22	0254	2092.8										
	0600	1953.3										
	0900	1696.9										
	1200	1573.2										
	1400	1460.8										
	1636	1341.2										
	1800	1277.2										
	2000	1202.8										
	2124	1174.1										
	2400	1100.5										
11-23	0300	1019.2										
	0600	949.7										
	0900	890.1										
	1200	860.0										
	1500	812.4										
	1800	781.6										
	2054	746.8										
	2400	724.5										
11-24	0300	689.9										
	0600	662.2										
	1200	617.4										
	1454	587.7										
	1800	575.3										
	2400	534.4										

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638.  
FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB.1194, P. 69.4-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638.  
 FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.4-2.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



NOVEMBER 18-24, 1964

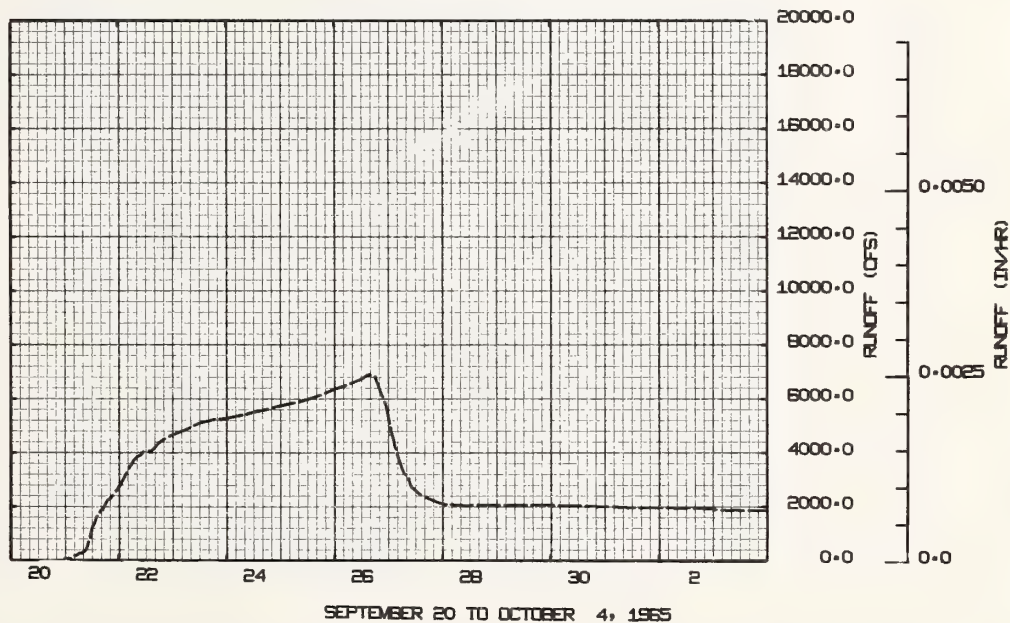
CHICKASHA, OKLAHOMA WATERSHED 400

1965			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of September 21-October 4, 1965														
							9-21	0000	51.6					
								0100	65.4					
								0200	87.9					
								0300	72.6					
								0400	157.4					
								0500	180.7					
								0600	227.5					
								0700	272.3					
								0800	286.9					
								0900	331.7					
								0930	390.5					
								1000	489.4					
								1030	598.4					
								1100	757.0					
								1130	893.7					
								1200	1070.6					
								1230	1217.9					
								1300	1317.6					
								1330	1386.5					
								1400	1510.0					
								1430	1613.2					
								1500	1660.3					
								1600	1841.5					
								1700	1887.4					
								1800	2016.1					
								1900	2196.0					
								2100	2339.2					
								2200	2488.0					
								2300	2575.3					
								2400	2688.8					
							9-22	0100	2793.8					
								0200	2953.5					
								0300	3098.4					
								0400	3309.0					
								0500	3465.0					
								0600	3581.9					
								0700	3714.1					
								0800	3792.7					
								0900	3876.8					
								1000	3918.8					
								1100	4025.2					
								1200	4050.9					
								1500	4053.1					
								1800	4365.8					
								2100	4540.4					
							9-23	2400	4663.6					
								0600	4853.3					
								1200	5095.6					
								1800	5222.3					
								2400	5276.1					
							9-24	0600	5371.0					
								1200	5508.0					
								2400	5730.8					
							9-25	1200	5979.6					
								1800	6146.0					
								2400	6359.2					
							9-26	0600	6530.8					
								1200	6735.2					
								1500	6901.4					
								1800	6826.6					
								2100	6174.1					
								2300	5728.8					
								2400	5294.1					
							9-27	0100	4865.9					
								0200	4606.6					
(Continued on next page)														

(Continued on next page)

1965			CHICKASHA, OKLAHOMA				WATERSHED 400			
SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of Sept. 21 - Oct. 4, 1965—Continued								0300	4238.7	
								0400	3901.4	
								0500	3655.8	
								0600	3446.6	
								0700	3242.5	
								0800	3114.7	
								0900	3031.1	
								1000	2745.7	
								1100	2670.7	
								1300	2531.3	
								1500	2399.9	
								1800	2309.8	
								2100	2190.1	
								2400	2100.8	
							9-28	0300	2079.1	
							9-28	0600	2055.5	
								1200	2047.9	
								2400	2064.7	
							9-29	1200	2069.0	
							9-30	1200	2039.6	
							10- 1	1200	1965.2	
							10- 2	0000	1965.2	
								1000	1936.6	
								1330	1952.9	
								2400	1920.4	
							10- 3	0730	1860.1	
								1000	1884.6	
								1530	1852.2	
								2400	1852.2	
							10- 4	0430	1836.3	
								0700	1850.9	
								2230	1812.6	
								2400	1818.0	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE P. 69.4-2, THIS PUBLICATION. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

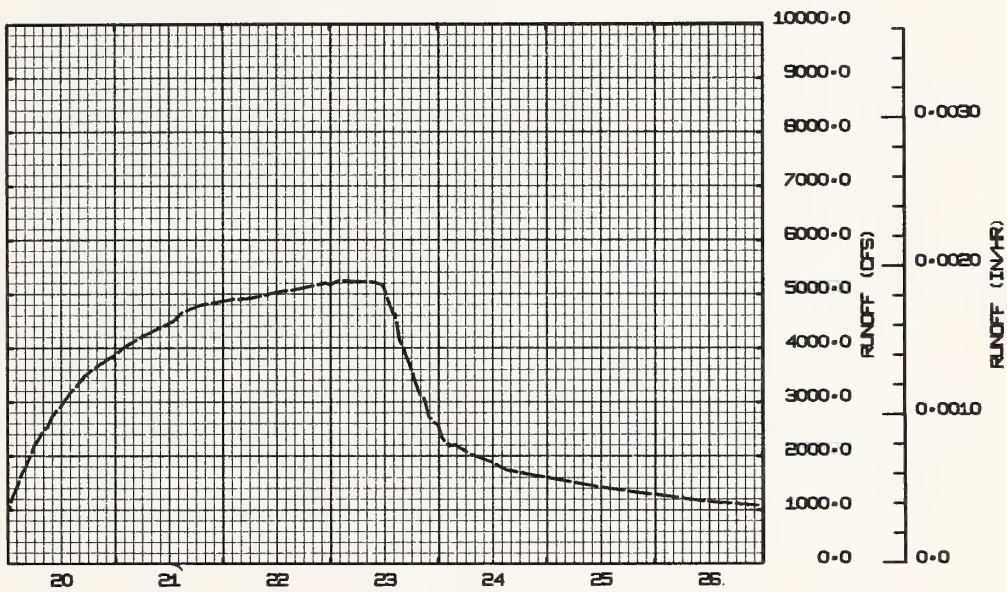


CHICKASHA, OKLAHOMA WATERSHED 400



1965			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of October 20-26, 1965							10-20	0030	1028.7					
								0100	1192.8					
								0130	1300.3					
								0200	1387.6					
								0230	1496.1					
								0300	1608.7					
								0330	1718.2					
								0400	1773.5					
								0500	1975.6					
								0600	2185.3					
								0700	2312.2					
								0800	2488.3					
								0900	2544.1					
								1000	2729.9					
								1100	2841.0					
								1200	2931.0					
								1400	3176.1					
								1536	3321.1					
								1700	3470.5					
								2000	3670.2					
							10-21	2400	3885.9					
								0200	4016.7					
								0530	4198.3					
								0900	4337.7					
								1300	4504.3					
								1500	4666.3					
								1900	4795.3					
								2400	4872.8					
							10-22	0230	4908.1					
								0630	4931.3					
								1200	5042.7					
								1800	5115.5					
								2300	5208.9					
								2400	5183.0					
							10-23	0200	5254.5					
								0600	5235.8					
								0800	5235.8					
								1000	5216.1					
								1130	5178.8					
								1200	5137.9					
								1400	4649.2					
								1430	4633.1					
								1530	4148.8					
								1630	3978.7					
								1800	3644.1					
								1900	3378.4					
								2000	3147.2					
								2100	3061.8					
								2200	2736.3					
								2300	2631.3					
							10-24	2400	2591.2					
								0100	2343.6					
								0230	2194.1					
								0400	2213.8					
								0700	2046.9					
								1200	1888.1					
								1500	1748.1					
								2100	1655.0					
								2400	1606.8					
							10-25	1200	1423.4					
								2400	1290.9					
							10-26	1200	1158.7					
								2400	1078.6					

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE P. 69.4-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



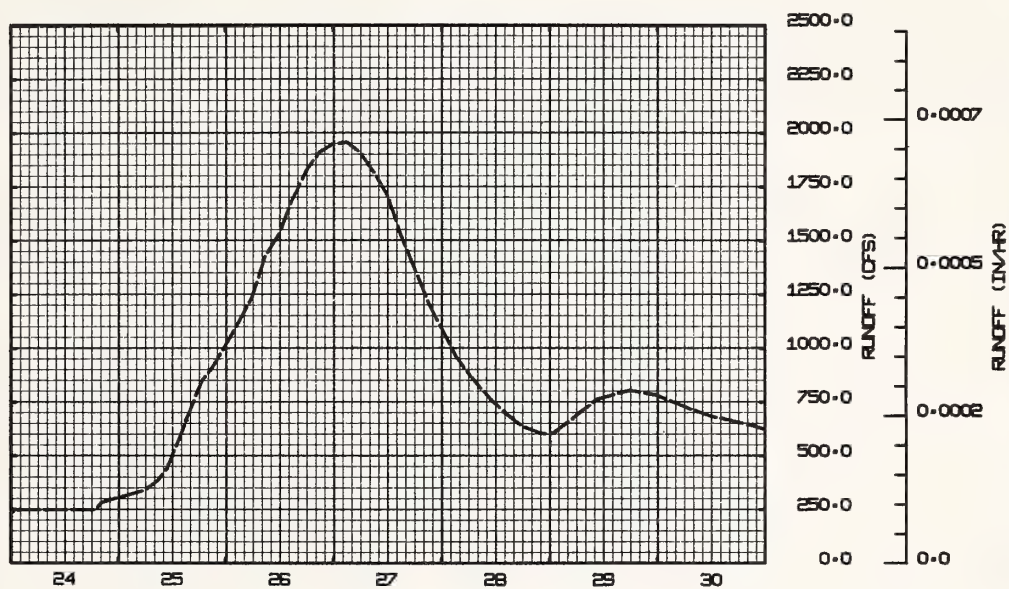
OCTOBER 20-26, 1965

CHICKASHA, OKLAHOMA WATERSHED 400

1965 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 400			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of December 24-30, 1965										
<p>Watershed conditions: The land use of this 4,259 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.4-1.</p>							12-24	0000	235.5	
								0200	249.7	
								1854	251.2	
								2018	282.2	
								2400	306.2	
							12-25	0554	339.0	
								0854	384.4	
								1100	441.5	
								1200	492.3	
								1312	552.0	
								1518	667.1	
								1730	786.0	
								1900	854.5	
								2100	908.1	
								2400	1012.6	
							12-26	0300	1121.6	
								0600	1240.1	
								0854	1429.1	
								1200	1533.4	
								1430	1671.6	
								1624	1754.7	
								1754	1821.0	
								2054	1910.1	
								2400	1948.8	
							12-27	0300	1958.6	
								0600	1908.6	
								0854	1821.0	
								1200	1708.0	
								1500	1524.9	
								1800	1370.6	
								2100	1214.6	
								2400	1094.0	
							12-28	0300	969.9	
								0600	881.7	
								1100	758.9	
								1500	684.8	
								1800	634.9	
								2200	605.5	
								2400	600.2	
							12-29	0100	606.9	
							12-29	0600	689.6	
								1030	761.4	
								1500	789.6	
								1800	804.2	
								2400	781.9	
							12-30	0600	728.8	
								1200	684.8	
								2100	642.2	
								2400	621.7	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE P. 69.4-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003638. FOR 30-DAY ANTECEDENT Q, SEE P. 69.4-2, THIS PUBLICATION. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



DECEMBER 24-30, 1965

CHICKASHA, OKLAHOMA WATERSHED 400



MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 500 NEAR CHICKASHA AREA — 2,768,000 ACRES (4,325 SQ. MILES) 1/							
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	P 2/ Q	1.14 .043	.81 .042	1.13 .048	1.93 .075	3.27 .066	2.92 .153	.64 .027	6.83 .036	2.80 .316	1.45 .385	.06 .093	1.10 .109	24.08 1.393
STA AVG	P 3/ Q	.66 .030	1.10 .039	1.26 .035	1.84 .051	3.37 .078	3.72 .104	1.65 .016	3.20 .048	3.53 .174	1.30 .201	2.85 .184	1.00 .084	25.48 1.044
MEAN 65 YR	P 4/ Q	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-26	.0022	9-26	.0022	9-26	.0045	9-26	.013	9-26	.026	9-25	.052	9-25	.099	9-22	.284

MAXIMUMS FOR PERIOD OF RECORD 5/																
19 64 TO 1965	9-26 1965	.0022	9-26 1965	.0022	9-26 1965	.0045	9-26 1965	.013	9-26 1965	.026	9-25 1965	.052	9-25 1965	.099	9-22 1965	.284

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc.Pub.1194,p.69.5-1. For Geologic map of watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc.Pub.1070,p.69.7-9. For revised composite map, see p.69.7-21.

1/Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps.

2/Precipitation data obtained from a Thiessen weighted average of 17 gages for the reach between stations at Chickasha (4th St.) and Chickasha (Turnpike). 3/Precipitation records began Oct.1961; runoff records began Jan.1964. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Jan. 1964.

MISCELLANEOUS DATA														
RUNOFF PEAK DATA: YEAR (1965): Maximum — Sept. 26, 6,247 cfs (22.13 ft). Minimum — Sept. 12, 25 cfs (4.45 ft).														
PERIOD OF RECORD: Maximum — Sept. 26, 1965, 6,247 cfs (22.13 ft). Minimum — Aug. 1, 1964, no flow (4.00 ft).														
PEAK DISCHARGES: (Above base flow of 3,000 cfs) 1965 — Sept. 26, 6,247 cfs (22.13 ft); Oct. 23, 5,218 cfs (20.29 ft).														
DAILY TEMPERATURE: See Page 69.7-3														

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 500 NEAR CHICKASHA						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.28	.00	.00	.00	.00	.59	.00	.00	.00	.00	.00	.01
2	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.18	.00	.00	.00	.00	.10	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.03
5	.00	.00	.00	.31	.00	.17	.08	.00	.00	.00	.02	.00
6	.00	.00	.00	.00	.00	.00	.00	2.15	.00	.00	.00	.00
7	.00	.09	.00	.01	.00	.00	.00	.31	.00	.00	.00	.00
8	.00	.30	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
9	.25	.31	.00	.00	.87	.00	.03	.00	.00	.00	.00	.00
10	.00	.00	.00	.03	.20	.00	.00	.10	.00	.00	.00	.16
11	.00	.01	.98	.00	.00	.07	.00	.00	.00	.00	.00	.01
12	.00	.00	.06	.00	.00	.38	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.01	.59	.48	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.17	.02	.00	.00	.02	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.02	.00	.31	.00	.04	.00	.00
16	.00	.00	.02	.00	.00	.00	.00	.56	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.68	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.13	1.40	.00	.05
19	.00	.00	.00	.00	.01	.00	.00	.24	1.18	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.09	.02	.00	.04	.00
21	.47	.00	.00	.00	.00	.71	.00	.00	.69	.00	.00	.00
22	.12	.00	.00	.00	.00	.19	.00	.03	.00	.00	.00	.00
23	.02	.03	.00	.00	.00	.00	.03	.10	.00	.00	.00	.16
24	.00	.00	.00	.15	.19	.00	.02	.00	.00	.00	.00	.67
25	.00	.00	.07	.00	.00	.16	.17	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	.72	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.04	.00	.01	.32	.00	.00	.00	.00
28	.00	.07	.00	.00	.62	.00	.33	2.52	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.01	-----	.00	.09	-----	.00	-----	.03
TOTAL	1.14	.81	1.13	1.93	3.27	2.92	.64	6.33	2.80	1.45	.06	1.10
STAAV	.66	1.10	1.26	1.84	2.37	3.72	1.65	3.20	2.53	1.30	2.55	1.00

NOTES:

YEARLY PRECIPITATION 24.08 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 17 GAGES ON THE WATERSHED.

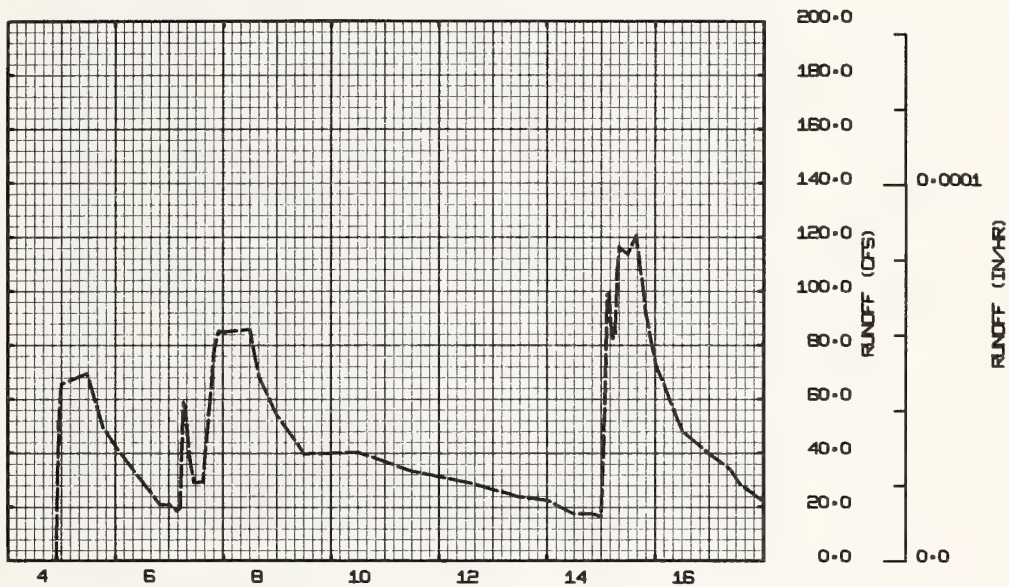
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 500 NEAR CHICKASHA						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	183	144	133	136	134	134	372	30	39	1950	618	263
2	185	141	133	141	131	268	272	32	36	1880	531	263
3	178	141	138	147	130	244	225	34	38	1810	496	256
4	175	139	136	149	127	684	203	26	36	1750	496	247
5	* 164	156	134	156	* 124	* 831	187	<u>23</u>	32	* 1660	* 471	245
6	167	179	133	* 267	122	449	163	46	30	1570	449	245
7	167	179	133	259	120	272	* 153	74	29	1480	428	245
8	166	180	<u>130</u>	384	116	553	135	* 637	28	1160	405	* 244
9	166	194	* <u>133</u>	284	<u>127</u>	394	121	107	27	945	388	240
10	172	200	135	305	345	280	119	80	26	780	372	245
11	168	203	149	359	376	200	119	55	26	663	359	247
12	166	209	159	302	214	150	107	213	<u>25</u>	618	348	247
13	166	245	176	349	184	158	101	276	* 35	538	343	* 247
14	164	253	183	508	190	144	95	415	45	456	336	247
15	164	<u>255</u>	178	* <u>845</u>	511	* 959	78	198	37	375	330	245
16	162	248	183	471	<u>882</u>	1010	* 68	127	30	347	327	247
17	163	228	197	530	* 609	843	64	87	27	<u>329</u>	318	244
18	160	190	263	666	495	667	60	70	32	341	309	242
19	* 159	160	325	434	448	590	59	59	51	372	306	239
20	* 155	153	<u>511</u>	305	421	380	48	50	49	* 2540	304	236
21	159	147	365	242	332	276	43	46	* 1020	* 4250	299	237
22	163	146	202	207	236	393	40	50	* 3890	* 4930	* 296	236
23	164	140	164	189	173	317	* 38	63	* 5000	4710	294	<u>234</u>
24	164	138	153	174	136	908	32	* 49	5230	2150	296	260
25	159	138	150	163	127	* <u>2170</u>	35	40	* 5500	1590	291	539
26	156	134	146	154	131	* 1310	39	55	* 5990	* 1290	287	1620
27	154	135	151	154	123	908	34	62	* 3310	1070	282	* 1810
28	150	<u>130</u>	151	149	138	1020	38	* 858	* 2070	938	277	845
29	147		145	146	153	768	35	208	2060	852	269	758
30	146	-----	140	<u>135</u>	141	524	34	* 73	2020	787	<u>261</u>	724
31	145	-----	139	-----	136	-----	27	46	-----	720	-----	531
MEAN	163	175	180	290	246	593	101	135	1226	1447	359	411
INCHES	.043	.042	.048	.075	.066	.153	.027	.036	.316	.385	.093	.109

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .000008599. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 230.667. YEARLY MEAN DISCHARGE, 444 CFS. YEARLY DISCHARGE, 1.393 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF <sup>2/</sup>			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of August 4-17, 1964							
							8- 4	2142	60	
								2154	36	
								2206	19.7	
								2224	32.7	
								2254	50.0	
								2400	65.5	
							8- 5	0100	66.0	
								1124	69.5	
								1830	49.6	
								2400	42.6	
							8- 6	0518	36.7	
								1354	27.3	
								1942	20.8	
								2400	20.8	
							8- 7	0306	18.6	
								0442	19.7	
								0524	40.1	
								0618	58.9	
								0654	57.1	
								0842	39.8	
								1054	29.0	
								1454	29.3	
								1742	57.1	
								1954	79.1	
								2154	85.3	
								2400	84.9	
							8- 8	1142	85.9	
								1542	68.6	
								2400	53.7	
							8- 9	1200	39.6	
							8-10	1200	40.3	
							8-11	1200	33.2	
							8-12	1200	29.3	
							8-13	1200	23.7	
							8-14	0000	22.5	
								1154	17.5	
								1924	17.5	
								2400	16.5	
							8-15	0054	39.2	
								0136	56.6	
								0212	77.5	
								0242	98.7	
								0324	99.0	
								0430	85.8	
								0518	82.4	
								0618	84.0	
								0700	105.9	
								0800	116.4	
								1148	113.7	
								1530	120.6	
								1948	92.0	
								2400	73.2	
							8-16	1200	48.0	
								2400	39.6	
							8-17	0924	33.9	
								1330	28.6	
								2400	21.9	

Watershed conditions: The land use of this 4,325 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 69.5-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.5-3. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED. 2/ THIS STREAMFLOW IS THE RESULT OF UPSTREAM RELEASE OF IRRIGATION WATER FROM THE FORT COBB RESERVOIR, INTO THE DRY STREAM CHANNEL.



AUGUST 4-17, 1964

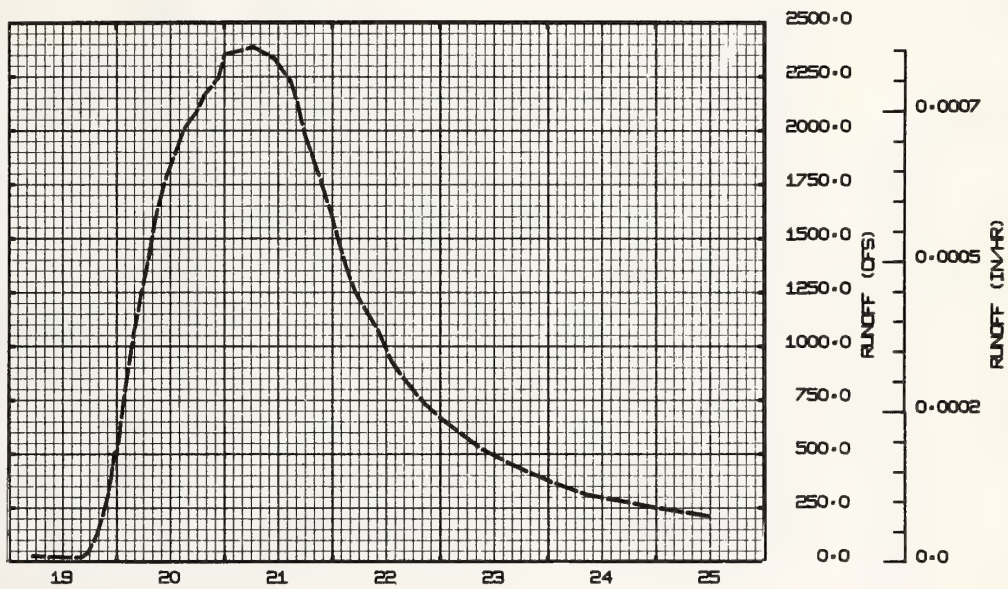
CHICKASHA, OKLAHOMA WATERSHED 500



1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
<u>Event of August 19-25, 1964</u>														
<u>Watershed conditions:</u> The land use of this 4,325 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 69.5-1.							8-19	0524	28.6					
								0954	22.5					
								1400	20.2					
								1606	20.8					
								1736	43.7					
								1854	91.0					
								1948	134.0					
								2054	204.8					
								2200	294.4					
								2248	386.5					
								2330	506.8					
								2400	489.8					
							8-20	0048	608.8					
								0142	759.6					
								0236	884.6					
								0342	1037.8					
								0436	1130.8					
								0530	1245.4					
								0636	1342.2					
								0748	1489.3					
								0906	1630.8					
								1106	1781.7					
								1254	1883.5					
								1518	2014.4					
								1754	2089.1					
								1930	2162.8					
								2242	2247.7					
								2400	2351.3					
							8-21	0348	2372.7					
								0618	2388.2					
								1100	2333.4					
								1448	2224.6					
								1630	2105.7					
								1754	1978.6					
								2006	1847.2					
								2212	1714.7					
								2400	1594.3					
							8-22	0236	1398.2					
								0500	1256.1					
								0748	1154.7					
								1030	1062.5					
								1312	930.7					
								1612	841.4					
								2030	734.8					
								2400	668.1					
							8-23	0106	652.7					
								0906	525.0					
								1954	452.4					
								2400	376.6					
							8-24	0806	314.8					
								2400	251.0					
							8-25	1200	209.0					

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003583. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.5-3.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003583. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.5-3. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



AUGUST 19-25, 1964

CHICKASHA, OKLAHOMA WATERSHED 500

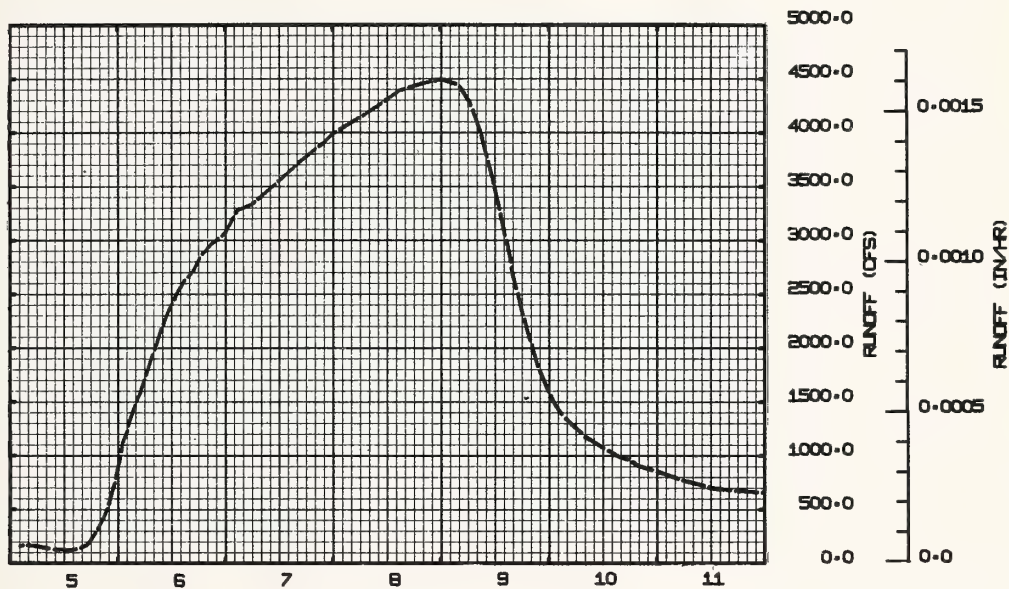
1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of November 5-11, 1964														
<p>Watershed conditions: The land use of this 4,325 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 69.5-1.</p>							11- 5	0224	158.6					
							0336	173.1						
							0618	155.6						
							1042	123.1						
							1324	121.8						
							1536	137.8						
							1706	164.4						
							1754	202.9						
							1854	266.0						
							1942	325.2						
							2048	408.8						
							2142	502.4						
							2230	609.3						
							2312	714.0						
							2400	880.3						
							11- 6	0030	949.8					
							0106	1115.7						
							0200	1208.0						
							0254	1344.5						
							0406	1489.4						
							0506	1580.6						
							0618	1749.4						
							0724	1890.7						
							0836	2028.8						
							0954	2193.5						
							1142	2373.4						
							1312	2509.6						
							1454	2625.6						
							1654	2720.7						
							1836	2861.4						
							2054	2963.2						
							2400	3072.6						
							11- 7	0242	3278.3					
							0554	3334.8						
							1000	3481.2						
							1400	3630.3						
							1806	3782.1						
							2148	3901.4						
							2400	3988.6						
							11- 8	0518	4119.2					
							1012	4248.2						
							1454	4389.3						
							2006	4452.7						
							2400	4495.1						
							11- 9	0400	4442.1					
							0636	4273.0						
							0848	4019.5						
							1012	3786.1						
							1136	3563.1						
							1248	3339.8						
							1354	3123.8						
							1512	2883.1						
							1606	2670.4						
							1700	2524.4						
							1754	2373.6						
							1906	2186.4						
							2024	2003.8						
							2142	1821.2						
							2306	1687.7						
							2400	1594.0						
							11-10	0130	1471.8					
							0306	1373.6						
							0454	1294.3						
							0754	1183.1						
							1130	1083.9						

(Continued on next page)

(Continued on next page)

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 5 - 11, 1964 - Continued										
								1530	988.4	
								1800	959.4	
								1948	907.0	
								2400	852.1	
							11-11	0530	770.8	
								1242	693.0	
								2400	656.5	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.5-3. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



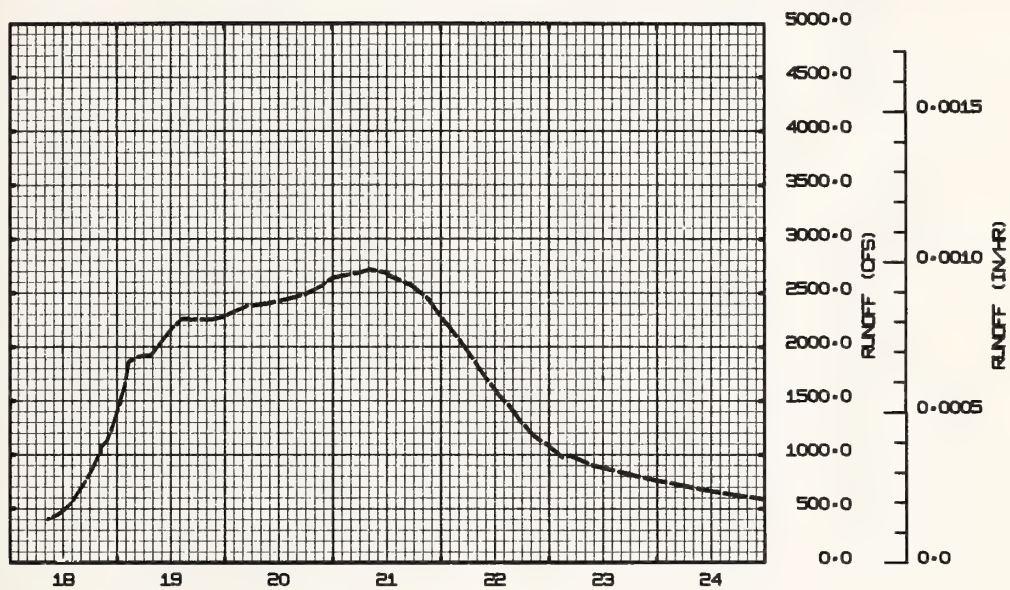
NOVEMBER 5-11, 1964

CHICKASHA, OKLAHOMA WATERSHED 500



1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 18-24, 1964										
<p>Watershed conditions: The land use of this 4,325 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 69.5-1.</p>							11-18	0842	406.0	
								1048	446.9	
								1218	488.5	
								1400	569.3	
								1530	660.2	
								1700	755.8	
								1830	865.5	
								1924	955.8	
								2012	1004.6	
								2030	1082.4	
								2142	1122.2	
								2248	1234.5	
							11-19	2400	1393.0	
								0054	1515.6	
								0148	1649.5	
								0242	1864.2	
								0442	1911.6	
								0742	1923.6	
								1124	2129.2	
								1424	2259.6	
								2124	2254.3	
							11-20	2400	2284.7	
								0500	2378.4	
								1006	2406.8	
								1712	2476.4	
								2154	2571.9	
							11-21	2400	2641.1	
								0518	2681.8	
								0818	2714.2	
								1212	2886.1	
								1236	2660.7	
								1748	2563.6	
								2124	2439.5	
							11-22	2400	2279.2	
								0212	2167.8	
								0442	2036.1	
								0730	1868.8	
								1000	1713.0	
								1248	1554.0	
								1554	1418.1	
								1800	1298.4	
								2042	1176.4	
							11-23	2400	1077.8	
								0300	977.1	
								0448	990.9	
								0942	901.1	
								1500	846.9	
							11-24	2400	760.7	
								0648	702.8	
								1418	646.6	
								2400	585.5	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.5-3.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



NOVEMBER 18-24, 1964

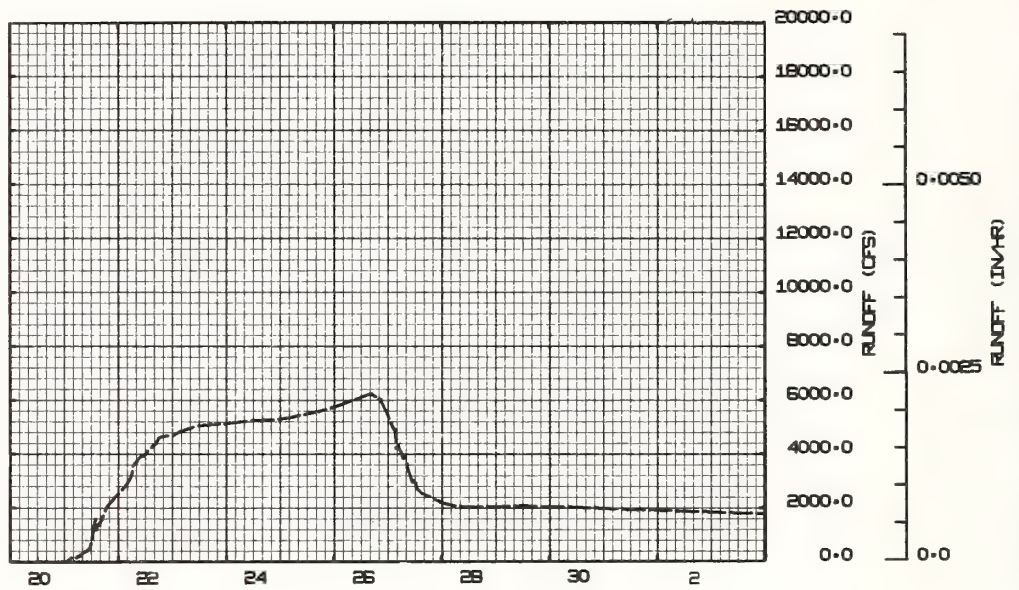
CHICKASHA, OKLAHOMA WATERSHED 500

1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
			Event of September 21-October 4, 1965											
							9-21	0200	61.1					
								0218	72.7					
								0300	127.4					
								0336	143.3					
								0500	155.4					
								0600	173.5					
								0700	229.4					
								0800	305.0					
								0836	337.5					
								0900	369.9					
								1006	390.2					
								1100	451.4					
								1130	518.3					
								1200	671.0					
								1230	859.9					
								1300	1140.3					
								1330	1436.8					
								1400	1605.3					
								1418	1176.7					
								1500	1384.3					
								1530	1374.7					
								1600	1476.6					
								1700	1599.3					
								1730	1760.7					
								1836	1956.8					
								1930	2090.4					
								2024	2179.0					
								2030	2188.6					
								2130	2292.5					
								2224	2385.1					
							9-22	2400	2524.6					
								0218	2732.3					
								0400	2921.8					
								0500	3050.6					
								0600	3214.8					
								0630	3566.5					
								0730	3656.5					
								0800	3686.9					
								0900	3813.4					
								1000	3925.4					
								1100	3915.7					
								1200	3996.8					
								1300	4104.6					
								1500	4278.6					
								1630	4380.0					
								1800	4593.1					
								2000	4670.0					
								2400	4684.8					
							9-23	0248	4813.9					
								0700	4937.1					
								1036	5045.3					
								1506	5073.9					
								2400	5131.4					
							9-24	1200	5253.1					
								2100	5276.4					
								2400	5300.2					
							9-25	0300	5333.8					
								0600	5379.2					
								1200	5494.1					
								1800	5607.4					
								2400	5745.8					
							9-26	0600	5910.1					
								0900	6012.4					
								1206	6095.1					
								1506	6207.9					
(Continued on next page)														

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 21-October 4, 1965 - Continued								1700	6247.1	
								1800	6151.1	
								2000	6108.9	
								2100	6016.1	
								2300	5634.8	
							9-27	2400	5473.6	
								0054	5309.1	
								0200	5106.0	
								0254	4902.7	
								0324	4924.5	
								0354	4225.6	
								0448	4304.7	
								0524	4176.6	
								0600	4099.1	
								0700	3846.5	
								0800	3914.8	
								0900	3496.0	
								1000	3216.7	
								1100	2954.3	
								1200	3065.2	
								1318	2715.6	
								1518	2538.0	
								1930	2399.1	
								2300	2255.4	
								2400	2208.2	
							9-28	0600	2084.0	
								1000	2041.1	
								1200	2036.0	
								1800	2033.4	
								2400	2045.0	
							9-29	1200	2080.1	
								2400	2037.2	
							9-30	1200	2029.5	
								2400	1975.6	
							10- 1	1200	1945.1	
							10- 2	1200	1880.9	
							10- 3	1200	1806.6	
							10- 4	1200	1751.7	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE P. 69.5-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.





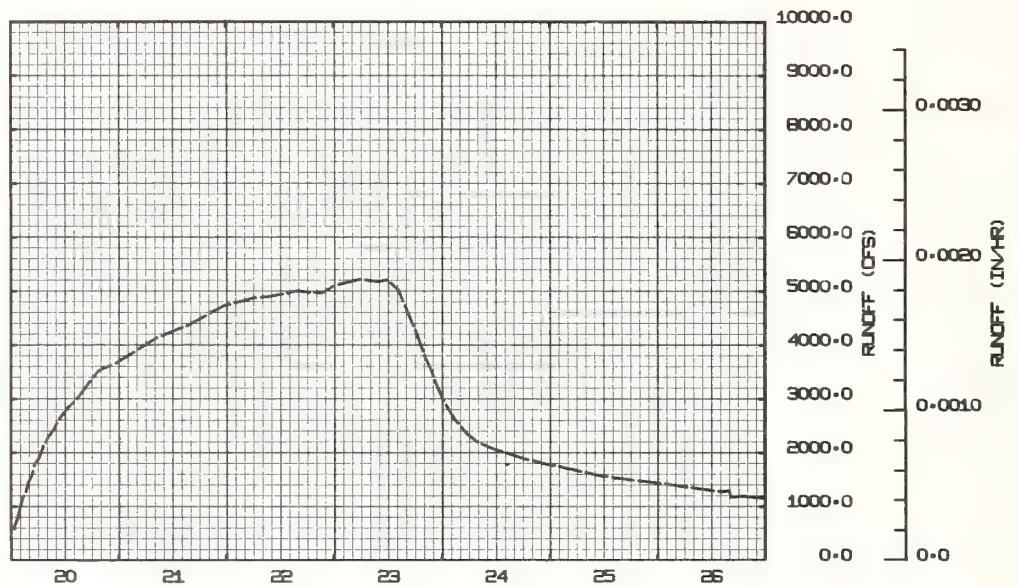
SEPTEMBER 20 TO OCTOBER 4, 1965

CHICKASHA, OKLAHOMA WATERSHED 500

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 20-26, 1965										
							10-20	0042	588.6	
								0148	847.6	
								0112	720.7	
								0212	1012.7	
								0236	1167.1	
								0318	1255.1	
								0354	1426.3	
								0442	1578.4	
								0518	1793.4	
								0618	1902.4	
								0712	2103.5	
								0812	2266.7	
								0930	2434.1	
								1054	2648.8	
								1236	2832.3	
								1448	3005.8	
								1648	3241.5	
								1936	3527.4	
								2300	3658.0	
								2400	3695.5	
							10-21	0324	3869.9	
								0754	4113.1	
								1200	4261.0	
								1506	4357.3	
								2042	4607.5	
								2400	4746.0	
							10-22	0600	4874.9	
								1000	4914.5	
								1600	5005.3	
								1800	4987.9	
								2130	4965.5	
								2400	5103.4	
							10-23	0548	5218.2	
								0942	5183.5	
								1200	5209.0	
								1424	5017.4	
								1612	4659.9	
								1736	4369.4	
								1900	4093.9	
								2006	3819.1	
								2118	3609.4	
								2224	3350.7	
								2330	3117.9	
								2400	3026.0	
							10-24	0100	2875.4	
								0230	2661.6	
								0330	2554.5	
								0524	2355.1	
								0754	2191.3	
								1200	2052.8	
								1830	1880.9	
								2400	1773.5	
							10-25	0600	1668.9	
								1200	1563.5	
								2400	1437.6	
							10-26	1200	1297.0	
								1406	1273.5	
								1606	1285.8	
								1630	1178.0	
								1900	1188.9	
								2400	1153.6	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE P. 69.5-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE P. 69.5-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



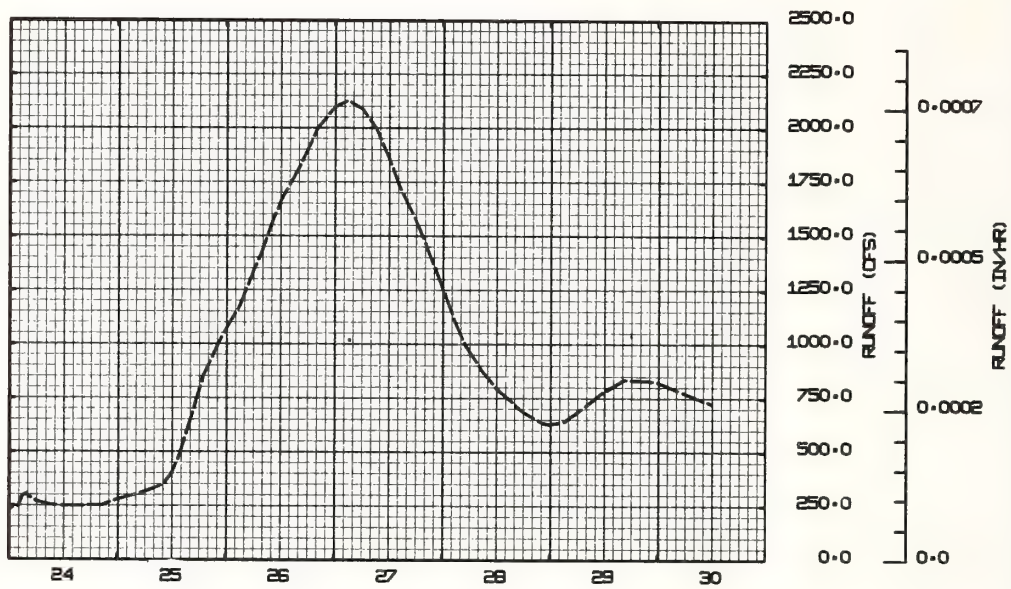
OCTOBER 20-26, 1965

CHICKASHA, OKLAHOMA WATERSHED 500

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 500			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of December 24-30, 1965										
<p>Watershed conditions: The land use of this 4,325 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 69.5-1.</p>							12-24	0000	235.8	
								0200	247.7	
								0300	297.6	
								0348	303.9	
								0600	269.8	
								0900	255.1	
								1200	249.4	
								2036	253.0	
								2400	280.5	
							12-25	0600	314.6	
								1000	346.6	
								1206	403.1	
								1354	492.0	
								1530	601.4	
								1712	720.5	
								1900	850.8	
								2148	980.5	
								2400	1070.2	
							12-26	0306	1181.1	
								0606	1342.3	
								0742	1418.0	
								1036	1590.9	
								1218	1671.3	
								1612	1821.3	
								2012	2002.5	
								2400	2099.8	
							12-27	0254	2128.7	
								0606	2088.0	
								0912	1994.8	
								1200	1860.9	
								1424	1728.4	
								1736	1594.8	
								2042	1441.0	
								2400	1258.9	
							12-28	0224	1126.4	
								0506	997.0	
								0854	877.7	
								1200	798.2	
								1800	687.5	
								2230	634.8	
								2400	629.1	
							12-29	0300	640.6	
								0600	684.8	
								1200	782.7	
								1624	837.6	
								1900	834.5	
								2142	831.9	
								2400	826.1	
							12-30	1200	724.4	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003583. FOR 30-DAY ANTECEDENT Q, SEE P. 69.5-2, THIS PUBLICATION. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.





DECEMBER 24-30, 1965

CHICKASHA, OKLAHOMA WATERSHED 500

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 600 NEAR TABLER AREA — 3,011,800 ACRES (4,706 SQ. MILES) 1/								
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P2/ Q	1.34 .048	.84 .046	1.08 .052	2.17 .080	3.51 .075	3.15 .156	.87 .029	6.86 .059	3.09 .287	1.43 .365	.05 .097	.90 .109	25.29 1.403	
STA AVG P3/ Q	1.23 .034	1.50 .040	1.10 .038	1.66 .052	5.30 .100	2.20 .106	.84 .017	5.40 .042	3.66 .120	1.14 .132	3.08 .134	.82 .063	27.93 .878	
MEAN P4/ 65 YR Q	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-26	.0020	9-26	.0020	9-26	.0039	9-26	.012	9-26	.023	9-26	.045	9-25	.087	9-22	.256

MAXIMUMS FOR PERIOD OF RECORD 5/																
19 63 TO 19 65	9-26 1965	.0020	9-26 1965	.0020	9-26 1965	.0039	9-26 1965	.012	9-26 1965	.023	9-26 1965	.045	9-25 1965	.087	9-22 1965	.256

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, P. 69.6-1. For Geologic map of Watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.7-9. For revised composite map, see P. 69.7-21. 1/Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/Precipitation data based on a Thiessen weighted average of 66 gages for the reach between stations at Chickasha (Turnpike) and Tabler, Okla. 3/Precipitation records began Oct. 1961; runoff records began July 1963. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla., missing months estimated. 5/Period of record began July 1963.

MISCELLANEOUS DATA													
RUNOFF PEAK DATA: YEAR (1965): Maximum — Sept. 26, 5,939 cfs (23.18 ft). Minimum — Aug. 5, 22 cfs (10.54 ft). PERIOD OF RECORD: Maximum — Sept. 26, 1965, 5,939 cfs (23.18 ft). Minimum — Aug. 1, 1964, no flow. PEAK DISCHARGES: (Above base flow of 3,000 cfs) 1965 — Aug. 8, 3,591 cfs (20.01 ft); Aug. 28, 3,804 cfs (19.80 ft); Sept. 26, 5,939 cfs (23.18 ft); Oct. 23, 5,295 cfs (21.90 ft).													
DAILY TEMPERATURE: See Page 69.7-3.													

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 600 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.36	.00	.00	.00	.00	.53	.00	.00	.00	.00	.00	.04
2	.00	.00	.00	.01	.00	.30	.00	.00	.00	.00	.00	.02
3	.00	.00	.00	.31	.00	.00	.00	.00	.62	.00	.00	.00
4	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.00
5	.00	.00	.00	.35	.00	.13	.06	.00	.00	.00	.02	.00
6	.00	.00	.00	.00	.00	.00	.00	1.32	.00	.00	.00	.00
7	.00	.08	.00	.02	.00	.00	.00	.86	.00	.00	.00	.00
8	.01	.33	.00	.02	.02	.00	.00	.00	.00	.00	.00	.00
9	.28	.27	.00	.00	.48	.00	.17	.00	.00	.00	.00	.00
10	.00	.00	.00	.06	.24	.00	.00	.09	.00	.00	.00	.16
11	.00	.01	.91	.10	.00	.02	.00	.00	.00	.01	.00	.02
12	.00	.00	.04	.00	.00	.34	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.01	.64	.51	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.15	.03	.00	.00	.05	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.36	.00	.27	.01	.03	.00	.00
16	.00	.00	.03	.00	.00	.00	.00	.44	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.64	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.21	1.39	.00	.03
19	.00	.00	.00	.00	.04	.00	.00	.08	1.19	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.35	.02	.00	.03	.00
21	.57	.00	.00	.00	.00	.51	.00	.00	.39	.00	.00	.00
22	.12	.00	.00	.00	.00	.22	.00	.24	.00	.00	.00	.00
23	.00	.03	.00	.00	.00	.00	.00	.03	.00	.00	.00	.19
24	.00	.00	.00	.05	.12	.03	.00	.00	.01	.00	.00	.42
25	.00	.00	.10	.01	.01	.19	.24	.00	.00	.00	.00	.00
26	.00	.00	.00	.07	1.21	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.06	.00	.06	.19	.00	.00	.00	.00
28	.00	.12	.00	.00	.63	.00	.34	2.13	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00		.03		.00	.80		.00		.02
TOTAL	1.34	.84	1.08	2.17	3.51	3.15	.87	6.86	3.09	1.43	.05	.90
STAAR	1.23	1.50	1.10	1.66	5.30	2.20	.84	5.40	3.66	1.14	3.08	.82

NOTES:

YEARLY PRECIPITATION 25.29 INCHES. PRECIPITATION VALUES ARE A THIENSEN WEIGHTED AVERAGE OF 66 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 600 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	210	173	164	160	164	171	539	23	* 280	1970	672	305
2	224	162	166	157	159	305	389	* 28	67	1900	586	300
3	212	162	160	268	151	285	297	25	52	1830	539	293
4	* 200	166	162	190	* 155	* 462	243	<u>23</u>	159	1770	521	288
5	200	164	164	178	146	733	208	49	47	*1690	503	281
6	198	196	160	278	143	549	* 175	140	32	1610	491	279
7	200	202	155	288	138	383	155	* 412	31	1580	477	* 277
8	190	202	157	307	133	* 483	139	*1860	30	1350	* 459	277
9	192	233	* 155	381	134	525	130	* 307	30	1040	434	279
10	196	* 254	<u>153</u>	357	354	377	131	124	30	889	417	277
11	204	250	162	383	466	283	123	76	<u>28</u>	759	404	274
12	200	243	228	368	311	220	117	91	29	720E	393	274
13	196	274	212	284	242	216	102	174	* 29	696E	380	274
14	192	305	214	587	293	208	96	268	* 43	642E	380	270
15	186	<u>312</u>	214	*1140	352	618	85	207	47	609E	375	270
16	186	305	210	588	773	*1180	* 72	141	36	580E	369	270
17	188	295	218	533	* 709	961	66	116	35	536E	364	268
18	* 188	256	270	717	595	786	60	73	53	557E	354	265
19	184	216	317	556	568	775	57	56	121	563	354	263
20	182	184	476	376	558	604	49	57	185	*1770	356	261
21	190	175	<u>511</u>	295	515	453	41	57	501	*3960	354	* 256
22	<u>228</u>	169	* 298	250	362	494	40	52	*3350	*4710	354	256
23	222	169	214	222	302	474	* 36	82	*4630	*4950	354	<u>256</u>
24	212	<u>157</u>	204	204	239	567	33	* 78	*4930	2660	* 351	301
25	206	164	198	192	212	*2000	31	61	*5170	*1620	351	396
26	196	169	188	192	333	*1660	37	55	*5650	1210	346	1220
27	* 192	162	184	188	* 209	1100	32	79	*4300	975	334	*1900
28	182	162	186	188	213	1120	32	*1940	*2320	843	326	1180
29	177		175	182	222	970	35	* 487	*2110	781	319	822
30	173		166	173	188	726	33	* 150	2010	745	<u>312</u>	871
31	171		<u>162</u>		<u>182</u>		27	199		724		738
MEAN	196	210	213	339	307	656	117	242	1211	1492	408	443
INCHES	.048	.046	.052	.080	.075	.156	.029	.059	.287	.365	.097	.109

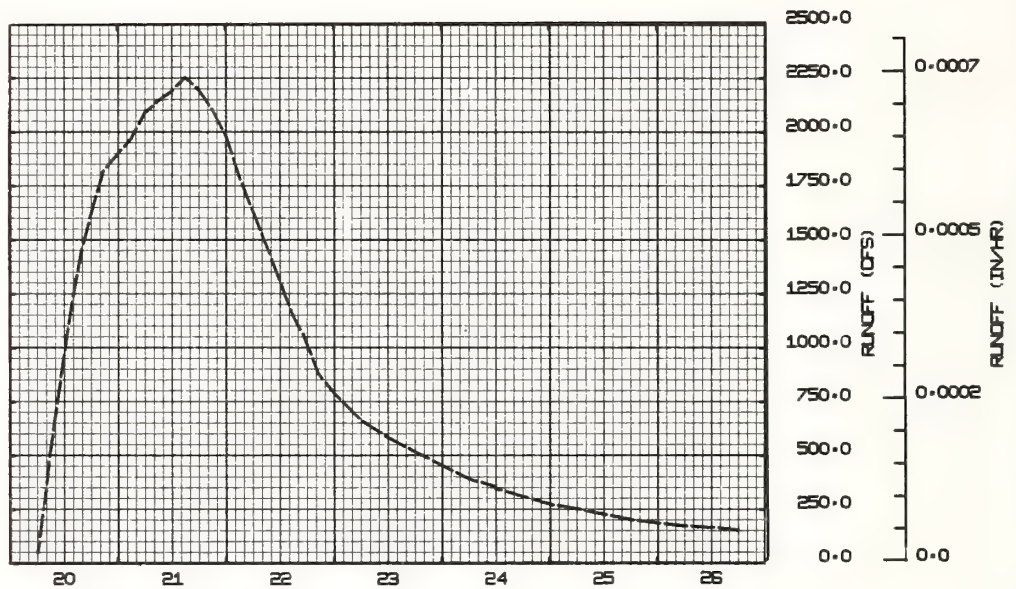
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .000007903. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 251,000. YEARLY MEAN DISCHARGE, 486 CFS. YEARLY DISCHARGE, 1.403 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 600			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{1}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (c/s)	ACC. (inches)
			Event of August 20-26, 1964							
							8-20	0612	50.7	
								0654	137.6	
								0724	247.6	
								0800	322.9	
								0854	493.4	
								0954	642.3	
								1324	1148.5	
								1454	1324.8	
								1548	1431.6	
								1800	1612.1	
								2054	1821.7	
								2400	1900.4	
							8-21	0300	1968.8	
								0600	2086.4	
								0906	2148.4	
								1200	2190.5	
								1500	2255.1	
								1800	2197.4	
								2100	2105.0	
								2400	1985.3	
							8-22	0254	1798.1	
								0600	1631.4	
								1036	1384.9	
								1324	1224.5	
								1512	1131.3	
								1706	1064.5	
								2030	880.0	
								2400	790.5	
							8-23	0554	667.4	
								1154	586.4	
								1754	520.5	
								2400	457.7	
							8-24	0400	416.1	
								0700	388.7	
								1142	360.2	
								1200	349.9	
								1800	313.1	
								2400	277.0	
							8-25	0600	254.5	
								1200	230.6	
								1800	204.0	
								2400	189.7	
							8-26	0600	175.7	
								1200	167.3	
								1800	155.7	

Watershed conditions: The land use of this 4,706 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.6-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003293. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.6-2.  $\frac{1}{1}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



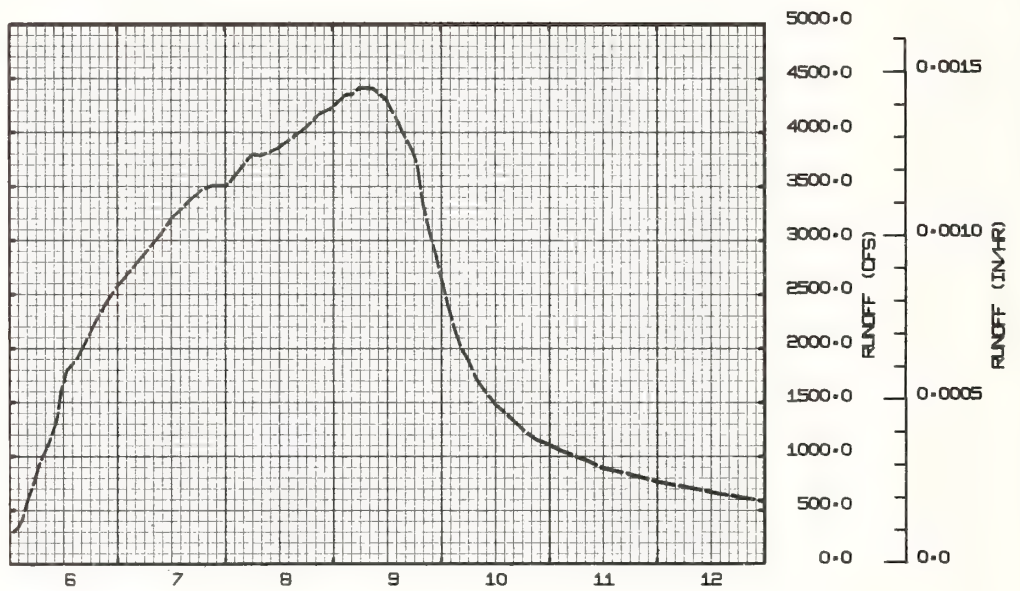


AUGUST 20-26, 1964

CHICKASHA, OKLAHOMA WATERSHED 600

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 600			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 6-12, 1964										
<p>Watershed conditions: The land use of this 4,706 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.6-1.</p>							11- 6	0100	305.0	
								0200	350.7	
								0300	430.4	
								0342	546.4	
								0530	765.1	
								0654	947.3	
								0830	1096.0	
								0924	1200.3	
								1030	1326.1	
								1124	1586.8	
								1242	1798.2	
								1442	1887.7	
								1700	2068.4	
								1900	2241.5	
								2130	2424.8	
							11- 7	2400	2580.6	
								0442	2815.4	
								0912	3038.7	
								1200	3204.5	
								1436	3307.8	
								1548	3364.7	
								1836	3463.1	
								2106	3508.5	
							11- 8	2400	3508.7	
								0100	3536.9	
								0206	3594.6	
								0306	3651.7	
								0600	3797.4	
								0800	3787.9	
								1200	3857.7	
								1800	4045.2	
								2100	4168.2	
							11- 9	2400	4234.8	
								0254	4351.5	
								0424	4353.6	
								0554	4414.0	
								0900	4403.0	
								1154	4302.0	
								1454	4053.8	
								1736	3829.3	
								1836	3721.3	
								1954	3338.2	
								2124	3081.4	
								2254	2848.8	
								2400	2651.7	
							11-10	0142	2369.0	
								0254	2188.9	
								0430	1997.3	
								0600	1890.6	
								0730	1742.1	
								0924	1619.4	
								1200	1477.7	
								1500	1369.4	
								1800	1249.2	
								2100	1157.5	
							11-11	2400	1105.8	
								0200	1061.6	
								0600	995.7	
								0900	950.3	
								1200	890.3	
								1800	832.2	
							11-12	2400	767.2	
								0554	720.8	
								1154	669.4	
								1754	625.9	
								2400	583.7	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003293.  
 FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.6-2. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



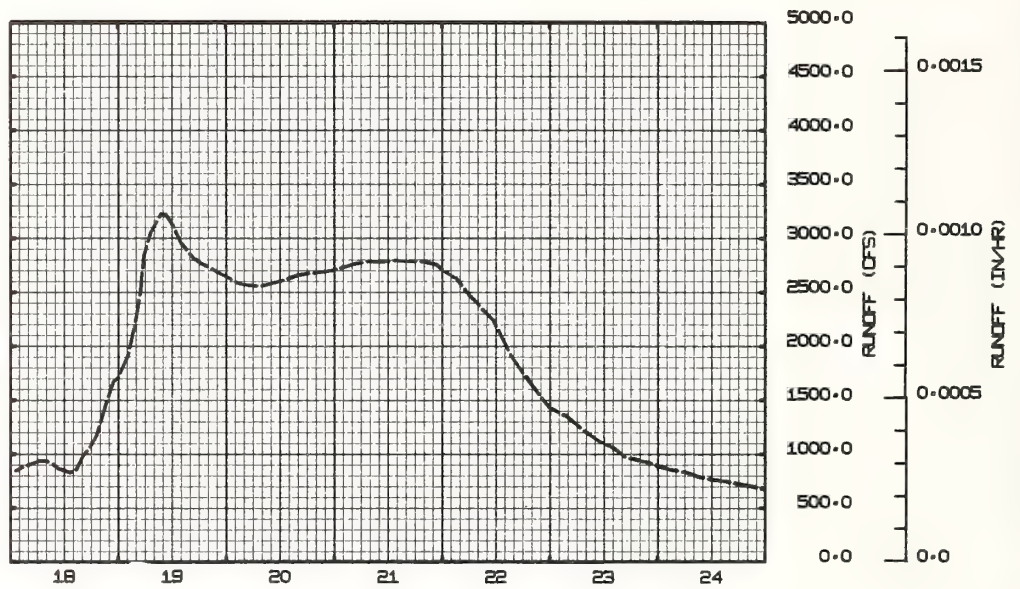
NOVEMBER 6-12, 1964

CHICKASHA, OKLAHOMA WATERSHED 600

1964 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 600			
ANTECEDENT CONDITIONS			RAINFALL $\frac{1}{2}$				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 18-24, 1964										
<p>Watershed conditions: The land use of this 4,706 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.6-1.</p>							11-18	0118	847.7	
								0406	900.6	
								0636	941.0	
								0754	940.6	
								0936	905.3	
								1048	865.7	
								1318	831.3	
								1430	835.7	
								1618	986.9	
								1806	1085.7	
								1918	1176.9	
								2112	1447.8	
								2306	1675.8	
								2400	1706.3	
							11-19	0218	1916.5	
								0348	2196.1	
								0500	2509.0	
								0548	2833.8	
								0718	3055.0	
								0936	3223.0	
								1042	3218.1	
								1230	3101.2	
								1406	2955.8	
								1700	2803.5	
								1912	2752.2	
								2142	2694.7	
								2400	2646.8	
							11-20	0236	2585.8	
								0512	2565.9	
								0806	2558.8	
								1236	2609.9	
								1606	2659.3	
								1942	2681.4	
								2400	2703.6	
							11-21	0500	2770.4	
								0718	2784.5	
								1030	2787.3	
								1254	2794.3	
								1654	2787.3	
								2024	2781.7	
								2248	2753.7	
								2400	2709.3	
							11-22	0306	2631.9	
								0600	2476.4	
								1130	2233.6	
								1500	1940.3	
								1842	1716.3	
								2206	1523.1	
								2400	1430.3	
							11-23	0342	1353.4	
								0648	1246.7	
								1054	1124.0	
								1406	1064.8	
								1642	979.0	
								1842	953.6	
								2154	921.4	
								2400	892.4	
							11-24	0300	856.9	
								0600	833.4	
								0900	790.5	
								1200	764.7	
								1506	750.5	
								1800	721.7	
								2106	698.1	
								2400	677.3	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003293.  
 FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.6-2.  $\frac{1}{2}$  NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.





NOVEMBER 18-24, 1964

CHICKASHA, OKLAHOMA WATERSHED 600

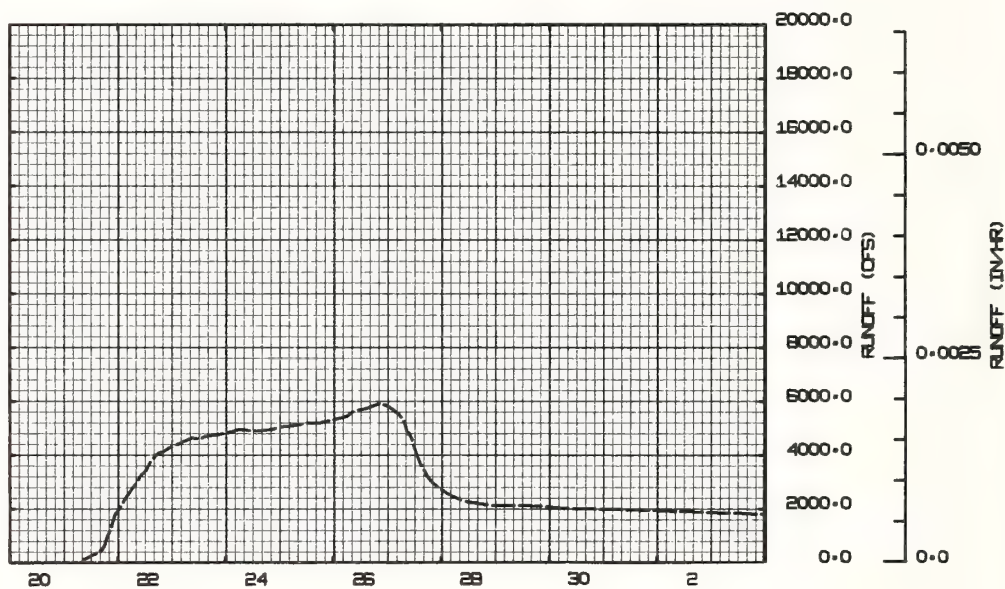
1965 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 600			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of September 21-October 4, 1965							
							9-21	0854	121.4	
								1000	150.4	
								1154	257.6	
								1500	371.8	
								1700	503.5	
								1800	615.2	
								1900	871.0	
								2000	1106.9	
								2100	1337.0	
								2154	1568.7	
								2254	1792.4	
								2400	1935.9	
							9-22	0300	2331.8	
								0600	2728.7	
								0900	3103.3	
								1030	3283.6	
								1230	3446.7	
								1506	3834.8	
								1806	4073.3	
								2000	4127.6	
								2400	4336.9	
							9-23	0300	4422.8	
								0600	4532.4	
								0900	4646.0	
								1200	4610.4	
								1500	4691.2	
								1800	4745.8	
								2400	4813.6	
							9-24	0600	4960.9	
								1200	4911.5	
								1506	4903.3	
								2100	4960.9	
								2400	5053.3	
							9-25	0600	5093.4	
								1200	5193.9	
								1806	5193.9	
								2400	5312.2	
							9-26	0600	5431.7	
								0900	5626.9	
								1406	5726.7	
								2100	5939.2	
								2400	5849.1	
							9-27	0300	5678.8	
								0600	5444.8	
								0800	5171.2	
								0900	4807.4	
								0930	4818.7	
								1100	4580.4	
								1300	4052.2	
								1500	3661.4	
								1630	3429.7	
								1800	3176.7	
								2000	2992.7	
								2224	2806.8	
								2400	2741.4	
							9-28	0300	2556.6	
								0600	2431.1	
								0900	2321.7	
								1200	2258.4	
								1800	2182.8	
								2400	2114.7	
							9-29	0200	2114.7	
								0630	2120.3	
								1236	2126.0	
								1842	2103.4	

(Continued on next page)

1965			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA		WATERSHED 600		
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
			Event of Sept. 21 - Oct. 4, 1965 —Continued				9-30	2400	2064.2		
								0600	2025.3		
								1206	1992.2		
								1800	1992.2		
								2400	1986.8		
							10- 1	1200	1964.9		
							10- 2	1200	1894.5		
							10- 3	1200	1830.6		
							10- 4	1200	1767.6		

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003293. FOR 30-DAY ANTECEDENT Q, SEE P. 69.6-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003293. FOR 30-DAY ANTECEDENT Q, SEE P. 69.6-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



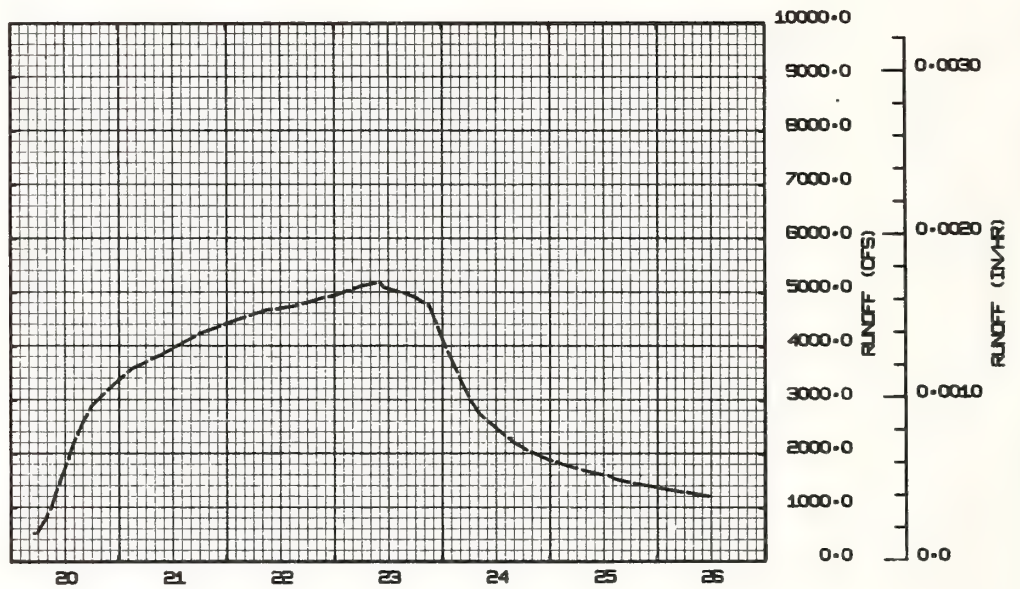
SEPTEMBER 20 TO OCTOBER 4, 1965

CHICKASHA, OKLAHOMA WATERSHED 600

1965 SELECTED RUNOFF EVENTS			CHICKASHA, OKLAHOMA				WATERSHED 600			
ANTECEDENT CONDITIONS			RAINFALL <u>1/</u>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 20-26, 1965										
							10-20	0518	527.2	
								0600	543.1	
								0700	677.8	
								0754	812.3	
								0906	1017.7	
								1000	1246.6	
								1106	1498.4	
								1218	1757.3	
								1336	2088.8	
								1448	2344.4	
Watershed conditions: The land use of this 4,706 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.6-1.								1630	2638.4	
								1806	2898.9	
								2100	3140.6	
								2400	3371.2	
							10-21	0300	3585.5	
								0854	3823.6	
								1200	3964.2	
								1800	4236.6	
								2400	4430.5	
							10-22	0900	4676.3	
								1500	4748.8	
								2218	4928.0	
								2400	4951.4	
							10-23	0600	5126.9	
								1000	5200.3	
								1106	5100.8	
								1354	5033.1	
								1800	4919.8	
								2054	4757.3	
								2100	4789.3	
								2230	4494.4	
								2400	4155.2	
							10-24	0212	3745.1	
								0400	3403.8	
								0600	3050.7	
								0818	2757.9	
								1130	2525.7	
								1606	2217.3	
								1930	2058.7	
								2400	1894.5	
							10-25	0600	1741.6	
								0900	1666.2	
								1300	1609.5	
								1500	1532.9	
								1800	1468.8	
								2400	1382.3	
							10-26	1200	1214.4	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003293. FOR 30-DAY ANTECEDENT Q, SEE P. 69.6-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



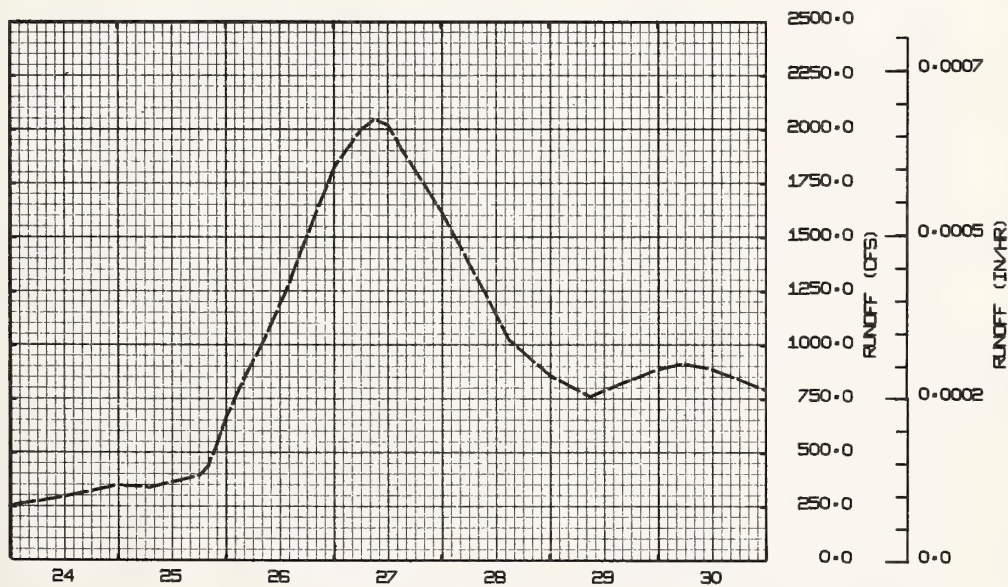


OCTOBER 20-26, 1965

CHICKASHA, OKLAHOMA WATERSHED 600

1965			SELECTED RUNOFF EVENTS				CHICKASHA, OKLAHOMA			WATERSHED 600		
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
<u>Event of December 24-30, 1965</u>							12-24	0000	256.3			
<u>Watershed conditions:</u> The land use of this 4,706 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.6-1.								1200	297.4			
								2400	351.3			
							12-25	0700	341.2			
								1200	364.1			
								1806	398.3			
								2000	440.5			
								2200	543.6			
								2400	665.8			
							12-26	0336	828.3			
								0836	1031.5			
								1318	1249.9			
								1736	1486.7			
								2224	1736.5			
								2400	1821.6			
							12-27	0554	1997.8			
								0900	2047.5			
								1200	2022.1			
								1400	1950.9			
								1518	1905.1			
								2000	1752.0			
								2400	1619.5			
							12-28	0542	1401.1			
								1124	1175.1			
								1500	1027.4			
								2400	862.0			
							12-29	0900	762.5			
								1506	817.1			
								2400	888.7			
							12-30	0530	915.7			
								1200	888.7			
								2400	791.5			

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003293. FOR 30-DAY ANTECEDENT Q, SEE P. 69.6-2, THIS PUBLICATION. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



CHICKASHA, OKLAHOMA WATERSHED 600

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 700 AT ALEX AREA — 3,061,120 ACRES (4,783 SQ. MILES) 1/							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P2/ Q	1.91 .050	.90 .047	1.12 .050	2.07 .089	3.41 .078	2.50 .158	1.43 .027	6.51 .068	4.30 .274	1.01 .355	.06 .092	.97 .099	26.19 1.387	
STA AVG P3/ Q	1.50 .056	1.54 .055	1.24 .054	1.56 .070	5.72 .099	1.87 .211	1.11 .042	3.874/ .050	3.39 .136	.87 .130	2.98 .148	.80 .073	26.45 1.124	
MEAN P5/ 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-26	.0019	9-26	.0019	9-26	.0038	9-26	.011	9-26	.022	9-26	.044	9-25	.085	9-22	.241

MAXIMUMS FOR PERIOD OF RECORD 6/																
19 61 TO 19 65	9-20 1962	.0032	9-20 1962	.0032	9-20 1962	.0063	9-20 1962	.019	9-20 1962	.035	9-20 1962	.057	9-20 1962	.097	9-22 1965	.241

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.7-1. For Geologic map, see foregoing reference, P. 69.7-9. For revised composite map, see P. 69.7-21. 1/ Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/ Precipitation data based on a Thiessen weighted average of 21 gages on the reach from Tabler to Alex. 3/ Precipitation records began Oct. 1961; runoff records began Sept. 1961. 4/ Due to the installation of station 600 in Aug. 1963, the station averages for this station will be computed from Aug. 1963 for the period of record. 5/ Mean P based on 65-yr. (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 6/ Period of record began Sept. 1961.

MISCELLANEOUS DATA														
RUNOFF PEAK DATA: YEAR (1965): Maximum — Sept. 27, 5,805 cfs (13.99 ft). Minimum — Aug. 3, 23 cfs (3.81 ft). PERIOD OF RECORD: Maximum — Sept. 20, 1962, 9,750 cfs (16.18 ft). Minimum — July 28, 1964, no flow. PEAK DISCHARGES: (Above base flow of 3,000 cfs) 1965 — Aug. 8, 3,634 cfs (10.55 ft); Aug. 28, 3,799 cfs (11.03 ft); Sept. 27, 5,805 cfs (13.99 ft); Oct. 23, 4,977 cfs (13.35 ft).  DAILY TEMPERATURE: See Page 69.7-3.														

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 700 AT ALEX						
DAY	JAN.	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.48	.00	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.46	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.06	.00	.00	.00	.00	.65	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
5	.00	.00	.00	.21	.00	.12	.00	.00	.00	.00	.04	.00
6	.00	.00	.00	.00	.00	.00	.01	1.40	.00	.00	.00	.00
7	.00	.10	.00	.00	.00	.00	.00	1.04	.00	.00	.00	.00
8	.02	.45	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
9	.42	.12	.00	.00	.26	.00	.03	.00	.00	.00	.00	.00
10	.00	.00	.00	.14	.15	.00	.00	.16	.00	.00	.00	.16
11	.00	.02	.96	.50	.00	.03	.00	.00	.00	.03	.00	.02
12	.00	.00	.03	.00	.00	.28	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.80	.44	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.06	.05	.00	.00	.05	.00	.00	.00	.01
15	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00
16	.00	.00	.04	.00	.00	.00	.00	.07	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	1.18	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.34	.95	.00	.01
19	.00	.00	.00	.00	.07	.00	.00	.00	1.61	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.46	.01	.00	.02	.00
21	.67	.00	.00	.00	.00	.68	.00	.00	.50	.00	.00	.00
22	.31	.00	.00	.00	.00	.13	.00	.90	.00	.00	.00	.00
23	.01	.05	.00	.00	.00	.00	.00	.08	.00	.00	.00	.24
24	.00	.00	.00	.03	.09	.08	.00	.00	.01	.00	.00	.51
25	.00	.00	.09	.00	.07	.11	.97	.00	.00	.00	.00	.00
26	.00	.00	.00	.07	1.26	.00	.01	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.02	.00	.00	.19	.00	.00	.00	.00
28	.00	.16	.00	.00	.56	.00	.41	1.37	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.05	-----	.00	.71	-----	.00	-----	.02
TOTAL	1.91	.90	1.12	2.07	3.41	2.50	1.43	6.51	4.30	1.01	.06	.97
STAAV	1.50	1.54	1.24	1.56	5.72	1.87	1.11	3.27	3.39	.87	2.98	.80

NOTES: YEARLY PRECIPITATION 26.19 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 21 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 700 AT ALEX						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	201	181	166	156	190	204	406	24	* 428	*1940	699	289
2	255	175	173	146	177	397	326	26	85	1850	609	287
3	220	175	162	205	171	371	276	23	65	1780	562	281
4	* 211	175	166	208	* 169	533	230	27	200	1720	535	271
5	208	169	169	183	164	* 908	230	23	87	1670	524	263
6	206	201	166	275	154	* 668	195	13	48	1700	506	257
7	206	220	160	306	146	463	* 160	* 251	* 46	1620	488	* 255
8	204	225	160	276	146	533	142	*1960	41	1400	* 457	252
9	204	247	* 158	379	146	617	133	510	37	1040	426	250
10	211	* 257	160	373	307	510	131	239	32	904	406	245
11	218	250	184	427	439	393	129	171	30	751	387	242
12	215	247	230	388	335	303	119	124	27	708	371	240
13	208	257	215	326	* 241	289	103	318	25	666	362	237
14	204	287	213	* 623	314	295	97	416	32	562	359	235
15	195	303	213	*1300	321	602	83	364	44	* 463	356	230
16	190	301	215	671	828	*1320	* 72	222	30	397	344	227
17	190	295	213	582	* 738	960	68	181	28	390	341	225
18	* 195	273	232	745	593	756	64	112	125	417	332	218E
19	192	227	284	577	573	743	60	88	171	* 529	332	215E
20	195	188	406	457	554	593	55	93	* 253	*1420	323	211E
21	208	175	492	406	517	499	49	80	346	*3690	326	208E
22	263	171	* 301	362	397	547	41	89	*2680	*4520	326	* 206
23	240	169	206	335	359	555	* 38	118	*4200	*4830	326	206
24	225	162	190	306	289	556	38	* 85	*4530	*2920	326	246
25	218	169	181	287	263	*2000	62	55	*5180	*1680	323	294
26	206	166	177	268	445	*1610	53	44	*5530	1390	320	981
27	* 197	166	175	255	* 245	904	37	62	*4550	1080	306	*1890
28	195	169	177	242	213	904	33	*2020	*2320	1030	301	1260
29	190	171	225	252	252	778	37	586E	2090	939	295	855
30	188	-----	162	211	211	547	31	* 199E	2020	847	292	933
31	186	-----	160	-----	201	-----	29	167E	-----	774	-----	783
MEAN	208	214	208	383	326	679	114	280	1176	1472	395	413
INCHES	.050	.047	.050	.089	.078	.158	.027	.068	.274	.355	.092	.099

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .000007776. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 255,093. YEARLY MEAN DISCHARGE, 489 CFS. YEARLY DISCHARGE, 1.387 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.



## CLIMATOLOGICAL DATA APPLICABLE TO ENTIRE EXPERIMENTAL WATERSHED (ANADARKO TO ALEX)

1965 DAILY AIR TEMPERATURE (degrees F)												CHICKASHA, OKLAHOMA												CRS											
DAY	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC												
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN											
1	66	46	40	21	49	29	74	52	84	50	83	59	97	71	91	65	79	58	72	44	78	42	59	37											
2	46	36	42	15	37	26	71	62	83	59	83	60	100	74	96	60	79	56	74	40	77	49	50	46											
3	49	27	49	20	37	22	84	63	82	62	82	63	96	73	97	63	89	66	73	56	70	55	63	34											
4	53	30	52	21	44	19	92	60	80	62	81	63	98	70	95	66	91	72	63	56	63	55	71	28											
5	61	44	50	42	53	28	76	56	78	67	78	63	94	72	95	67	88	72	66	52	65	59	69	39											
6	66	48	61	47	52	28	90	50	86	67	84	64	97	76	94	67	88	70	70	52	68	59	61	29											
7	72	54	59	33	53	24	81	51	79	67	89	62	85	74	91	65	91	71	87	45	70	47	62	23											
8	64	32	35	22	65	22	61	56	78	64	93	70	100	71	88	66	91	72	86	46	70	48	66	38											
9	32	20	56	33	60	25	82	48	71	59	92	71	100	76	94	69	93	71	96	49	59	44	69	53											
10	36	12	58	33	53	38	85	66	67	57	91	69	103	72	87	65	88	66	95	50	67	40	65	58											
11	46	11	47	22	43	39	76	53	76	52	89	67	100	76	91	70	88	63	70	51	64	53	72	50											
12	45	27	39	19	45	41	77	47	82	55	91	65	98	74	91	65	92	66	70	45	70	40	61	35											
13	47	29	43	21	50	43	75	45	82	60	84	65	101	74	89	66	88	74	82	47	64	36	56	30											
14	53	28	54	23	60	41	74	59	79	60	86	68	99	74	89	68	101	72	81	66	72	50	54	35											
15	50	24	56	30	65	34	64	47	82	63	80	68	95	70	81	67	98	77	83	64	80	61	41	33											
16	33	18	41	27	71	42	74	41	78	58	84	68	97	70	85	68	95	76	84	69	67	43	53	29											
17	51	20	56	30	62	29	83	52	80	60	85	64	102	73	92	70	85	54	80	68	53	33	54	24											
18	47	28	65	26	29	21	73	48	81	64	85	61	101	76	92	72	87	64	70	62	71	43	50	36											
19	60	27	64	32	26	17	74	43	72	63	87	62	100	78	96	72	77	66	77	56	72	36	55	28											
20	53	30	67	32	40	12	84	46	79	57	96	67	98	76	94	70	83	67	71	50	61	54	63	28											
21	54	30	56	21	55	22	91	58	83	58	94	66	95	74	96	70	77	56	65	45	59	40	66	22											
22	61	44	53	18	73	39	89	60	81	63	87	68	99	70	94	71	79	52	70	38	72	35	67	25											
23	44	29	53	13	61	27	88	64	80	63	91	70	101	74	87	71	74	55	75	45	76	39	63	58											
24	51	25	33	10	37	24	85	51	75	67	87	72	104	75	90	70	60	48	64	40	78	47	60	33											
25	66	32	56	22	36	23	62	47	82	68	88	69	100	73	98	69	72	49	73	39	84	48	48	29											
26	50	27	69	23	47	23	55	49	76	56	90	73	94	72	99	76	80	58	70	42	78	34	54	30											
27	54	24	70	40	63	27	68	42	76	50	92	72	98	73	98	70	78	56	74	37	64	28	39	35											
28	42	25	76	48	70	46	68	34	72	52	92	73	87	73	85	68	81	58	74	38	56	29	50	37											
29	46	19	---	---	48	42	81	37	77	48	95	75	86	65	88	70	82	58	74	40	60	27	64	50											
30	33	23	---	---	56	36	83	53	83	55	96	73	89	59	88	74	65	48	75	45	57	23	73	55											
31	51	22	---	---	67	32	---	---	77	64	---	---	87	65	88	67	---	---	76	49	---	---	62	54											
AV.	51	29	54	27	52	30	77	51	79	60	88	67	97	72	92	68	84	63	75	49	68	43	59	37											
MEAN	39.8		40.5		40.6		64.3		69.2		77.4		84.5		79.9		73.5		62.3		55.7		48.0												
STA AV	49	24	53	27	60	34	77	52	81	60	89	67	96	72	92	69	84	63	77	51	64	41	51	30											

NOTES: AVERAGE AND STATION AVERAGE ARE ROUNDED TO NEAREST DEGREE. MEAN ROUNDED TO THE NEAREST TENTH OF A DEGREE. STATION AVERAGE BASED ON RECORDS FROM SEPT. 1962 THROUGH DEC. 1965.

## 1965 MONTHLY EVAPORATION AND WIND

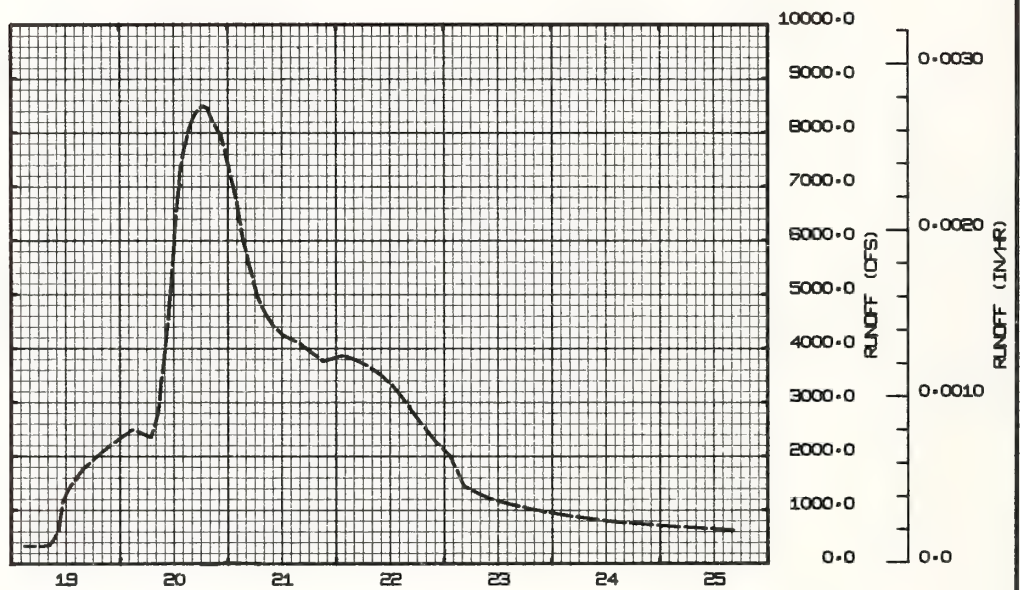
MONTH	EVAPORATION (INCHES)	TOTAL WIND (MILES)
APRIL	10.82	2284
MAY	9.18	3441
JUNE	9.59	2882
JULY	13.33	2464
AUGUST	11.06	1747
SEPTEMBER	7.61	2321
OCTOBER	4.75	1723
NOVEMBER	2.73	1726

EVAPORATION DATA ARE BASED ON CHICKASHA EXPERIMENT STATION RECORDS PUBLISHED IN U. S. WEATHER BUREAU CLIMATOLOGICAL DATA FOR OKLAHOMA.

1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 19-25, 1962										
<u>Watershed conditions:</u> The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.							9-19	0300	334.7	
								0700	327.8	
								0830	349.0	
								0930	460.6	
								1030	629.0	
								1130	1164.1	
								1242	1383.7	
								1412	1567.7	
								1542	1743.8	
								1812	1940.8	
								2200	2202.9	
							9-20	0300	2492.9	
								0700	2354.5	
								0830	2795.6	
								0912	3405.8	
								0942	3681.8	
								1030	4303.2	
								1130	5214.5	
								1230	6487.9	
								1330	7336.8	
								1430	7773.0	
								1530	8091.0	
								1630	8303.1	
								1730	8455.5	
								1830	8490.5	
								1930	8454.0	
								2030	8223.1	
								2130	8072.5	
								2230	7940.8	
								2330	7568.0	
	0030	7211.1								
9-21	0130	6892.4								
	0230	6394.9								
	0330	5957.7								
	0430	5603.3								
	0530	5276.6								
	0630	4973.4								
	0730	4772.7								
	0830	4610.4								
	1000	4417.4								
	1200	4246.4								
	1530	4111.5								
	2100	3762.9								
9-22	0130	3863.6								
	0430	3781.0								
	0730	3649.9								
	1030	3470.5								
	1330	3219.4								
	1630	2882.5								
	1930	2544.2								
	2230	2244.5								
9-23	0130	1998.6								
	0430	1447.6								
	0730	1305.9								
	1030	1203.1								
	1500	1099.6								
	2100	986.3								
9-24	0300	898.0								
	0900	827.9								
	1500	770.4								
	2100	729.5								
9-25	0430	681.3								
	1630	619.5								

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.7-6. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.7-6. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



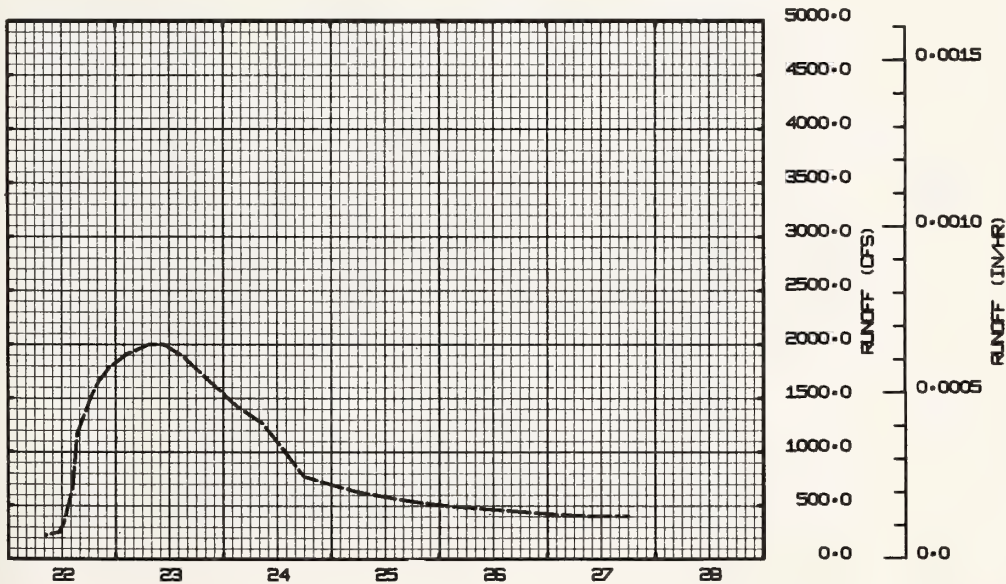
SEPTEMBER 19-25, 1962

CHICKASHA, OKLAHOMA WATERSHED 700

1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of October 22-27, 1962							10-22	0830	225.4	
								1130	248.4	
								1230	334.1	
								1330	489.8	
								1430	671.5	
								1530	1158.6	
								1630	1272.5	
								1730	1385.8	
								1842	1523.4	
								2012	1653.8	
							10-23	2230	1776.1	
								0230	1909.6	
								0730	2002.1	
								1100	1996.7	
								1500	1887.5	
							10-24	2100	1656.7	
								0300	1426.5	
								0900	1255.3	
								1800	769.3	
							10-25	0600	626.6	
								1800	537.6	
							10-26	0300	492.2	
								1500	450.7	
							10-27	0600	404.3	
								1800	397.7	

Watershed conditions: The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.7-6. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



OCTOBER 22-27, 1962

CHICKASHA, OKLAHOMA WATERSHED 700



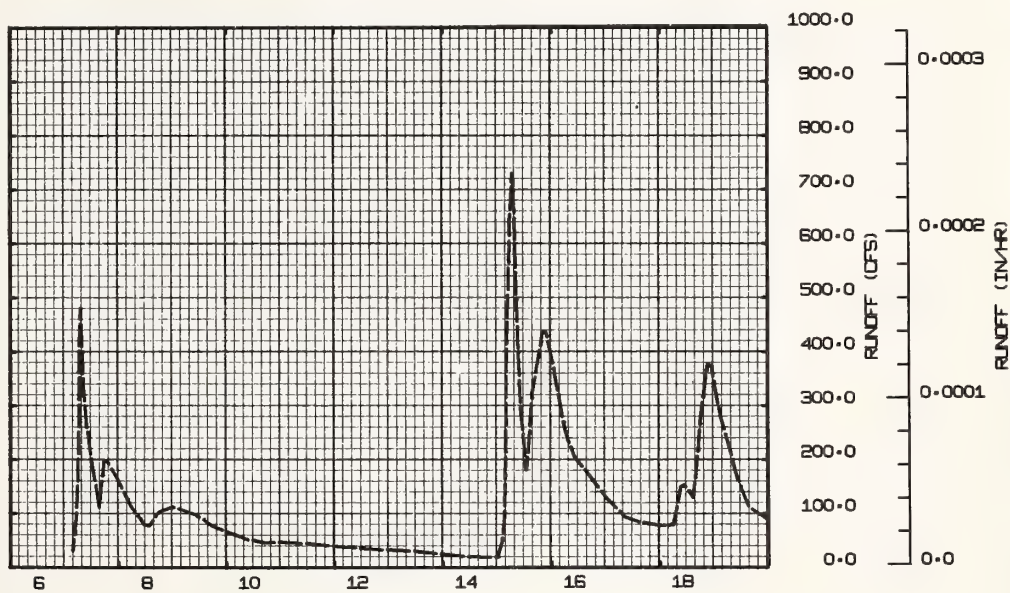
1964      SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of August 6-19, 1964							
							8- 6	0000	0	
								1048	0	
								1054	14.6	
								1136	57.3	
								1306	38.7	
								1530	39.9	
								2130	37.6	
								2400	35.0	
							8- 7	0342	32.1	
								0454	82.4	
								0554	152.4	
								0624	256.6	
								0636	417.9	
								0706	480.9	
								0830	334.5	
								0936	269.6	
								1200	196.5	
								1530	111.3	
								1624	155.2	
								1736	197.7	
								1900	197.6	
								2400	160.8	
							8- 8	0536	113.0	
								1130	79.5	
								1342	78.5	
								1748	103.0	
								2400	113.0	
							8- 9	1030	97.6	
								1742	77.0	
								2400	66.9	
							8-10	0906	52.6	
								1718	46.3	
								2400	47.0	
							8-11	1200	44.8	
							8-12	1200	35.7	
							8-13	1200	29.8	
							8-14	1200	20.1	
							8-15	0000	18.9	
								0212	49.9	
								0306	96.3	
								0324	151.6	
								0342	244.1	
								0400	397.4	
								0436	494.7	
								0524	639.9	
								0630	730.2	
								0654	715.2	
								0730	645.4	
								0812	517.1	
								0900	418.9	
								1006	300.5	
								1230	180.6	
								1248	182.2	
								1424	271.6	
								1512	321.9	
								1748	384.8	
								1948	436.7	
								2118	436.5	
								2400	383.1	
							8-16	0230	326.6	
								0512	264.3	
								0718	233.6	
								1006	204.2	
								1530	175.9	
								2400	129.1	

(Continued on next page)

(Continued on next page)

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL 1/				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of August 6-19, 1964 - Continued							8-17	0806	94.3	
								1442	84.0	
								2400	77.9	
							8-18	0548	79.2	
								0730	111.9	
								0906	150.5	
								1042	153.2	
								1436	130.5	
								1618	192.8	
								1748	271.5	
								1842	301.7	
								2106	377.4	
								2300	373.6	
								2400	342.7	
							8-19	0300	278.8	
							8-19	0612	231.4	
								1030	162.8	
								1536	111.9	
								2400	88.8	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.7-3. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

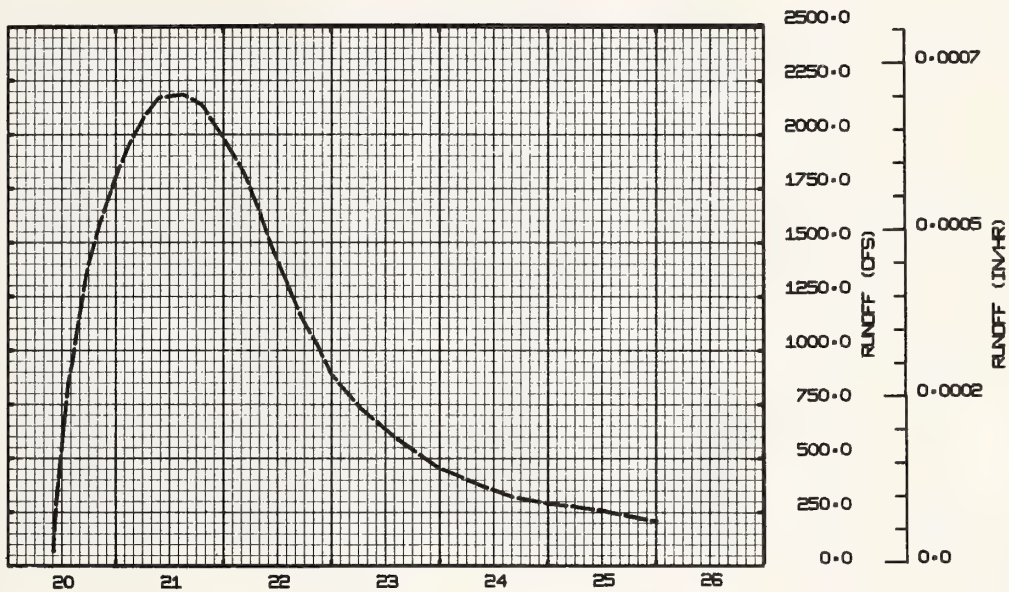


AUGUST 6-19, 1964

CHICKASHA, OKLAHOMA WATERSHED 700

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of August 20-26, 1964							
Watershed conditions: The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.							8-20	1012	70.6	
								1024	141.2	
								1042	241.4	
								1100	328.0	
								1130	438.7	
								1212	590.3	
								1248	704.7	
								1324	841.0	
								1424	939.9	
								1542	1127.4	
								1754	1391.1	
								2024	1583.2	
							8-21	2400	1802.1	
								0306	1961.2	
								0636	2090.5	
								0930	2170.5	
								1454	2185.5	
								1912	2134.9	
							8-22	2400	1978.8	
								0436	1823.3	
								0800	1642.8	
								1048	1477.0	
								1306	1364.9	
								1730	1150.7	
								2112	1014.9	
								2400	890.0	
							8-23	0630	733.0	
								1354	599.3	
								2400	453.3	
							8-24	0918	373.5	
								1612	319.8	
								2400	290.8	
							8-25	1200	258.5	
							8-26	0000	206.5	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.7-3. <sup>1/</sup> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



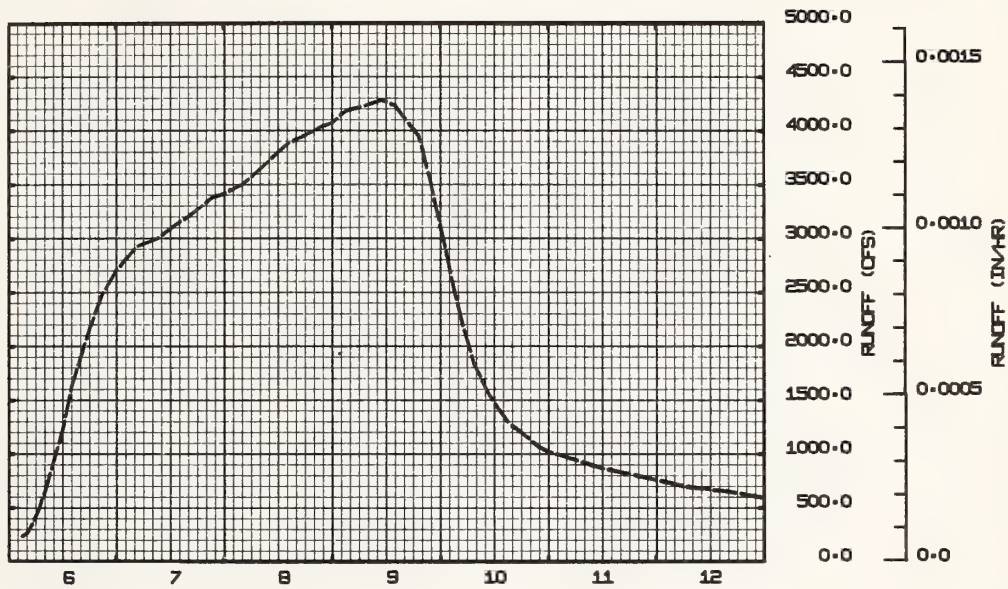
AUGUST 20-26, 1964

CHICKASHA, OKLAHOMA WATERSHED 700



1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL <sup>1/</sup>				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in./hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 6-12, 1964										
<p>Watershed conditions: The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.</p>							11- 6	0306	242.4	
								0406	263.8	
								0436	293.6	
								0648	492.6	
								0830	710.4	
								1012	954.7	
								1206	1235.1	
								1406	1623.2	
								1548	1858.1	
								1806	2177.0	
								2106	2501.8	
							11- 7	2400	2704.2	
								0436	2927.8	
								0918	3006.6	
								1330	3137.5	
								1612	3210.8	
								2130	3385.2	
							11- 8	2400	3413.0	
								0418	3507.7	
								1418	3883.0	
								1718	3942.8	
								2124	4034.1	
								2400	4077.4	
							11- 9	0300	4182.8	
								0800	4243.6	
								1054	4286.1	
								1354	4230.1	
								1912	3945.5	
								2148	3513.2	
								2400	3104.4	
							11-10	0218	2659.1	
								0448	2219.8	
								0730	1841.1	
								1054	1545.4	
								1500	1298.9	
								2154	1070.7	
								2400	1022.5	
							11-11	1200	867.9	
								2400	760.7	
							11-12	0624	700.4	
							11-12	1536	654.2	
								2400	593.7	

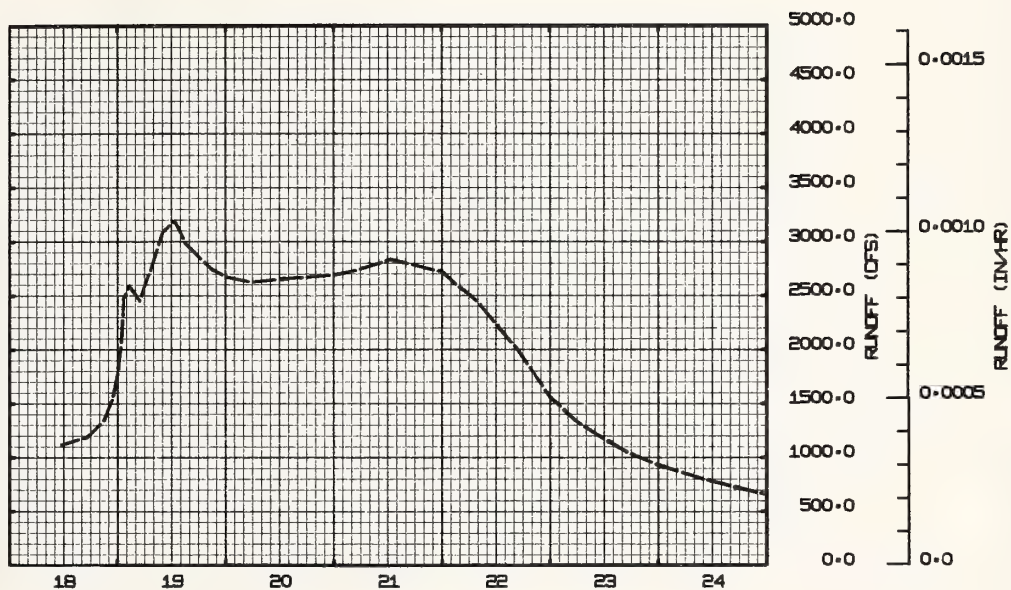
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.7-3. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



NOVEMBER 6-12, 1964

CHICKASHA, OKLAHOMA WATERSHED 700

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 700		
ANTECEDENT CONDITIONS			RAINFALL <u>1/</u>				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of November 18-24, 1964											
							11-18	1148	1117.9		
								1742	1199.8		
								2100	1343.1		
								2300	1542.6		
								2400	1745.2		
							11-19	0054	2041.8		
								0130	2480.2		
								0242	2595.7		
								0500	2456.7		
								0742	2771.0		
								1006	3089.3		
								1242	3195.8		
								1518	2979.1		
								2054	2743.4		
								2400	2677.0		
							11-20	0542	2626.3		
								1554	2668.1		
								2400	2694.9		
							11-21	0512	2740.6		
								1230	2837.1		
								2400	2722.6		
							11-22	0212	2639.4		
								0742	2454.5		
								1230	2212.2		
								1700	1991.7		
								2112	1734.4		
								2400	1566.1		
							11-23	0518	1354.6		
								1042	1203.8		
								1648	1053.6		
								2400	927.6		
							11-24	0830	818.7		
								1418	753.7		
								2400	657.7		
<p>Watershed conditions: The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.</p>											
<p>NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.7-3. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.</p>											

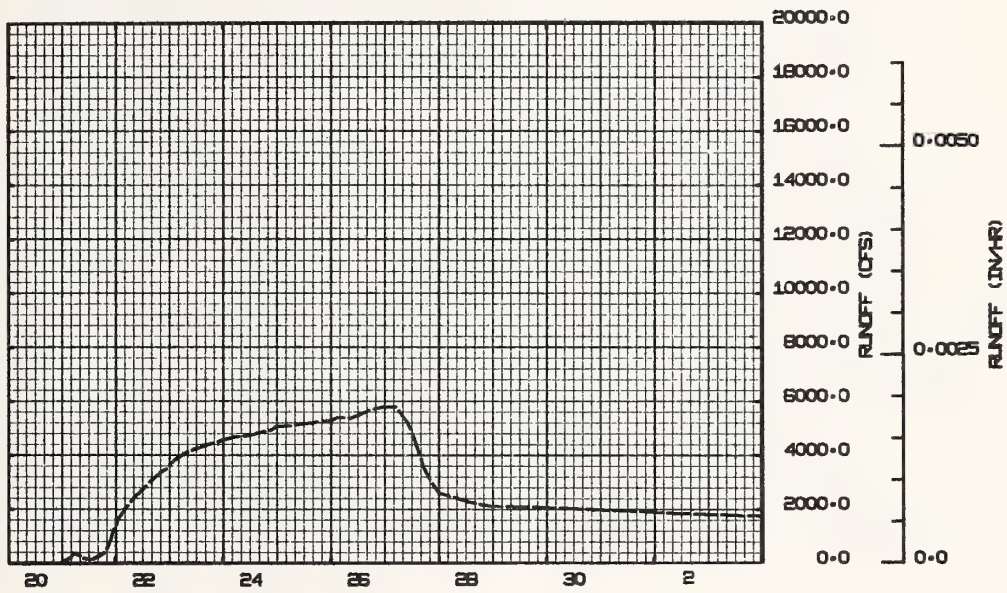


NOVEMBER 18-24, 1964

CHICKASHA, OKLAHOMA WATERSHED 700



1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL <u>1/</u>				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of September 21-October 4, 1965												
							9-21	0118	104.2			
								0300	144.4			
								0406	194.7			
								0500	330.3			
								0536	366.2			
								0554	364.8			
								0630	347.0			
								0830	271.4			
								0936	184.8			
								1242	131.0			
								1406	145.1			
								1506	197.4			
								1700	278.7			
								1900	382.0			
								2024	560.3			
								2200	890.7			
								2300	1194.0			
								2400	1405.4			
							9-22	0136	1701.4			
								0236	1792.6			
								0400	1997.5			
								0600	2192.0			
								0900	2478.0			
								1136	2675.9			
								1324	2840.7			
								1630	3103.6			
								1954	3369.5			
								2306	3521.0			
								2400	3635.8			
							9-23	0230	3830.0			
								0554	4015.6			
								0900	4170.4			
								1200	4231.0			
								1754	4413.3			
								2400	4553.6			
							9-24	0600	4690.9			
								1200	4740.5			
								1330	4785.3			
								2100	4908.5			
								2400	5082.6			
							9-25	0600	5102.4			
								1030	5160.2			
								1500	5206.6			
								2400	5288.4			
							9-26	0300	5399.8			
								0600	5410.6			
								0900	5378.3			
								1200	5481.0			
								1800	5706.7			
								2400	5804.6			
							9-27	0500	5792.3			
								0800	5434.0			
								1000	5204.1			
								1200	4815.1			
								1330	4506.1			
								1506	4104.8			
								1700	3569.0			
								2100	2961.5			
								2400	2605.9			
							9-28	0406	2498.5			
								1200	2301.1			
								1800	2179.0			
								2400	2097.0			
							9-29	1200	2089.7			
							9-30	1200	2016.6			
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE P. 69.7-2, THIS PUBLICATION. <u>1/</u> NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.							10- 1	1200	1937.8			
							10- 2	1200	1846.8			
							10- 3	1200	1777.9			
							10- 4	1200	1724.0			



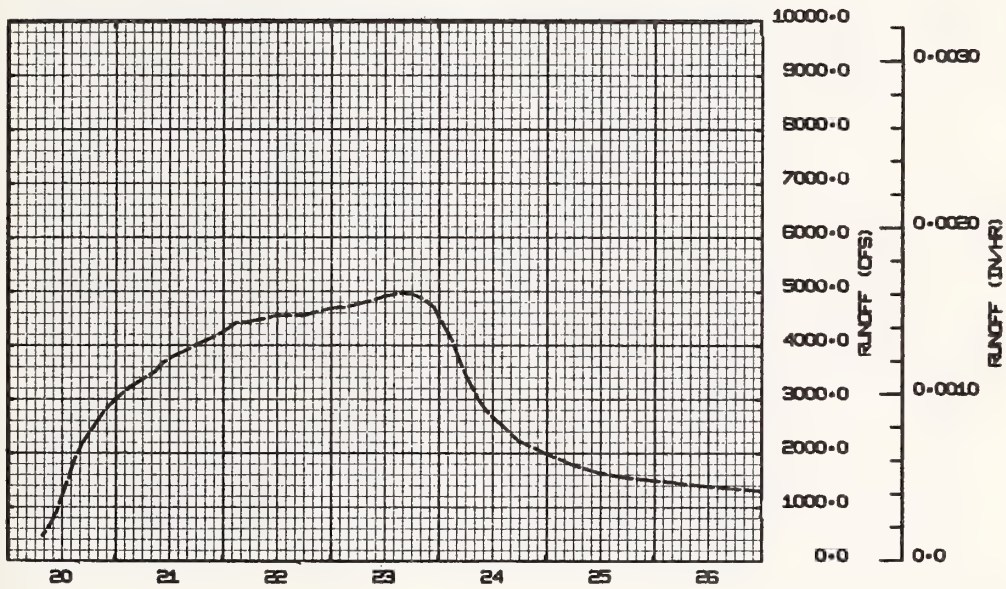
SEPTEMBER 20 TO OCTOBER 4, 1955

CHICKASHA, OKLAHOMA WATERSHED 700

1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 700		
ANTECEDENT CONDITIONS			RAINFALL <u>1</u>				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
			Event of October 20-26, 1965								
							10-20	0754	484.1		
								0930	664.6		
								1100	910.3		
								1200	1159.5		
								1236	1275.6		
								1348	1363.1		
								1500	1877.0		
								1642	2184.2		
								1906	2474.0		
								2142	2794.7		
								2400	2989.2		
							10-21	0300	3207.3		
								0900	3521.0		
								1000	3632.1		
								1200	3765.7		
								1800	4005.5		
								2400	4254.1		
							10-22	0300	4427.1		
								0418	4432.2		
								0754	4477.8		
								1200	4564.6		
								1800	4564.6		
								2400	4696.2		
							10-23	0300	4709.2		
								0854	4829.8		
								1200	4919.8		
								1506	4976.6		
								1800	4963.1		
								2100	4845.9		
								2300	4709.0		
								2400	4540.8		
							10-24	0300	4112.6		
								0500	3668.9		
								0700	3318.1		
								0900	2999.8		
								1054	2782.1		
								1200	2693.1		
								1512	2450.5		
								1754	2238.2		
								2400	2002.2		
							10-25	0600	1791.6		
								1200	1638.0		
								1800	1554.3		
								2400	1497.6		
							10-26	1200	1387.4		
								2400	1304.6		
Watershed conditions: The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.											

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE P. 69.7-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .0000003240. FOR 30-DAY ANTECEDENT Q, SEE P. 69.7-2, THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



OCTOBER 20-26, 1965

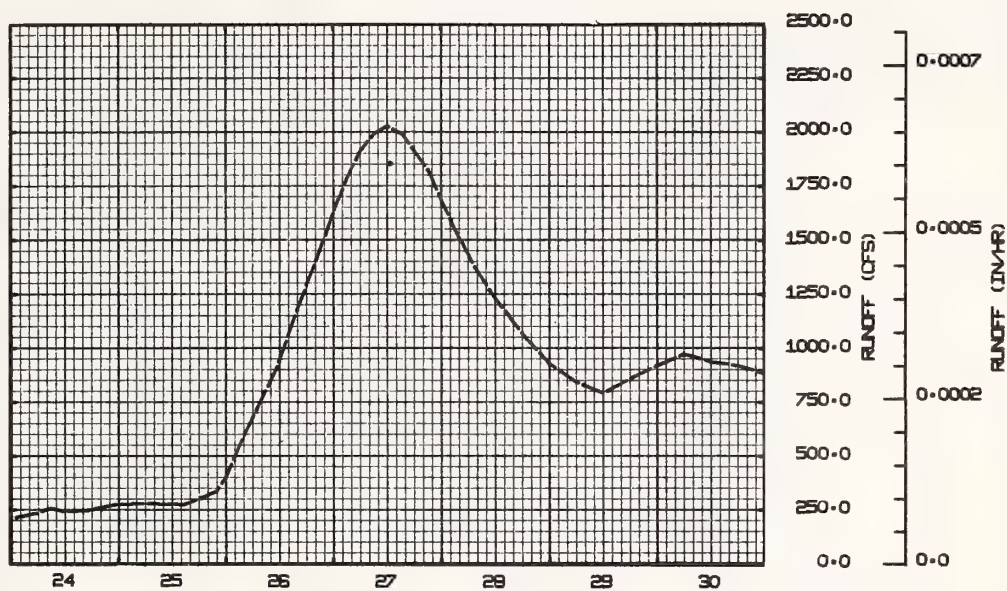
CHICKASHA, OKLAHOMA WATERSHED 700



1965		SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA		WATERSHED 700			
ANTECEDENT CONDITIONS			RAINFALL <u>1/</u>				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of December 24-30, 1965											
Watershed conditions: The land use of this 4,783 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-1.							12-24	0000	210.6		
								0606	237.1		
								0900	258.3		
								1200	244.1		
								1648	247.2		
								2400	275.8		
							12-25	0530	281.2		
								1442	275.8		
								1806	300.5		
								2200	337.9		
								2400	401.0		
							12-26	0300	543.8		
								0600	678.7		
								1124	909.2		
								1600	1179.6		
								2118	1466.6		
								2400	1628.3		
							12-27	0300	1780.4		
								0600	1909.7		
								0900	1990.0		
								1200	2028.7		
								1530	1987.8		
								2130	1812.1		
								2400	1690.7		
							12-28	0300	1553.7		
								0730	1375.4		
								1200	1230.0		
								1800	1066.2		
								2400	928.7		
							12-29	0600	842.4		
								1200	791.7		
								1806	861.2		
								2400	918.9		
							12-30	0600	973.5		
								1200	938.6		
								1800	918.9		
								2400	885.0		

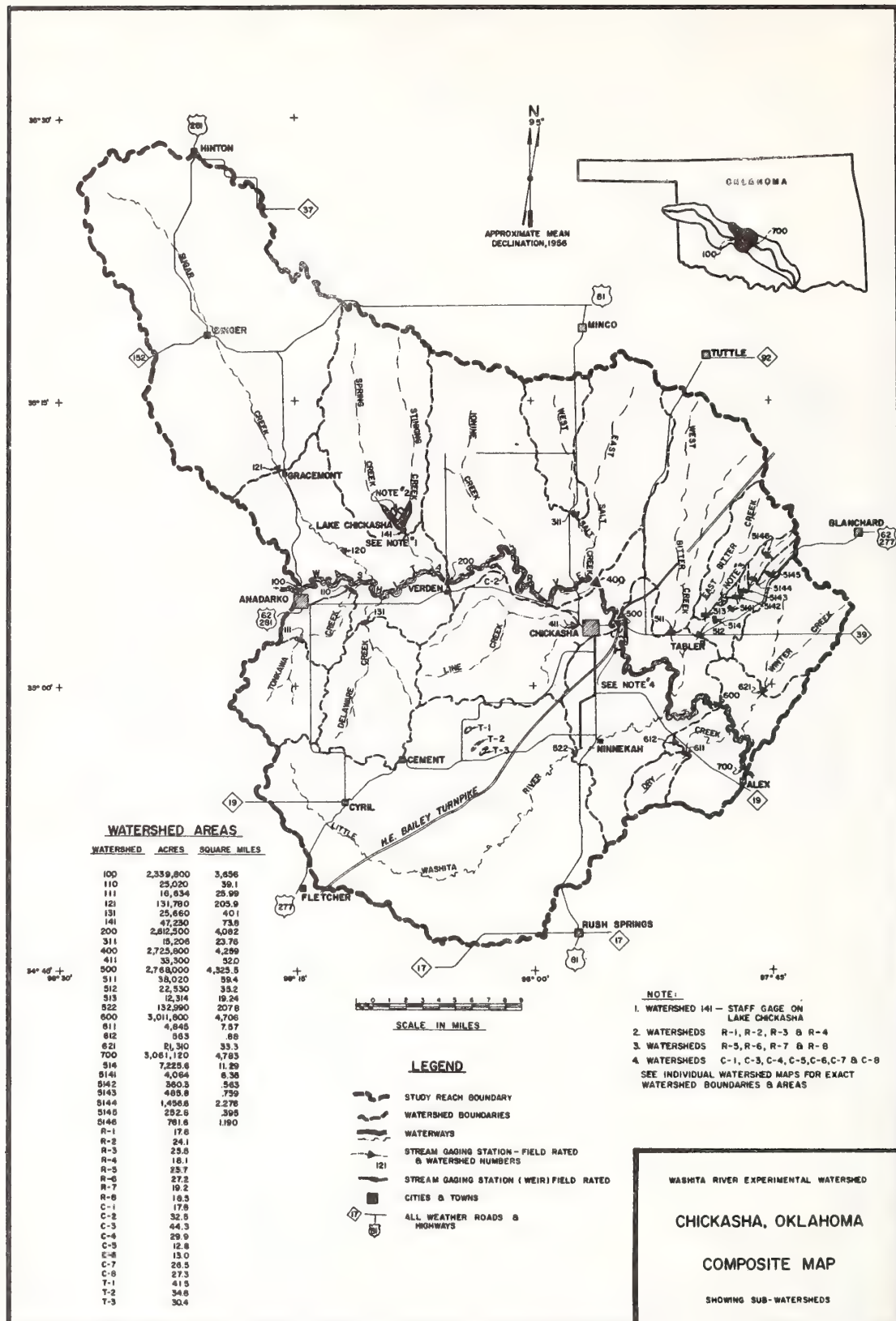
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003240. FOR 30-DAY ANTECEDENT Q, SEE P. 69.7-2. THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000003240. FOR 30-DAY ANTECEDENT Q, SEE P. 69.7-2. THIS PUBLICATION. 1/ NO PRECIPITATION RECORD IS SHOWN BECAUSE MOST OF THE WATERSHED LIES OUTSIDE OF THE AREA IN WHICH PRECIPITATION IS MEASURED.



DECEMBER 24-30, 1965

CHICKASHA, OKLAHOMA WATERSHED 700



(Revision of Previously Published Map, P. 69.7-7, 1962)

69.7-21

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 611 NEAR ALEX AREA — 4,845 ACRES (7.57 SQ. MILES)										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P <sub>1</sub> Q	1.37 .043	.74 .043	1.11 .050	1.31 .053	3.20 .089	2.57 .060	.94 .000	5.68 .095	3.34 .060	.89 .000	.08 .000	.91 .006	22.14 .499			
STA AVG P <sub>2</sub> Q	.76 .093	1.05 .101	1.36 .099	1.72 .152	3.77 .383	3.26 .199	1.83 .035	2.72 .052	3.26 .072	1.51 .059	2.81 .140	.99 .095	25.04 1.480			
MEAN P <sub>3</sub> 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-26	.0254	5-26	.0203	5-26	.0307	5-26	.043	5-26	.048	5-26	.051	8-6	.053	8-6	.074
MAXIMUMS FOR PERIOD OF RECORD 4/																
19 61 TO 1965	5-9 1964	.501	5-9 1964	.423	5-9 1964	.557	5-9 1964	.649	5-9 1964	.667	5-9 1964	.880	5-9 1964	.988	5-6 1964	1.154
Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.8-1. For maps, see foregoing reference, Topography map, P. 69.8-5 and Geologic map, P. 69.7-9. For revised composite map, see P. 69.7-21. 1/Precipitation data obtained from a Thiessen weighted average of 7 gages on the watershed. 2/Precipitation records began Oct. 1961; runoff records began Nov. 1961. 3/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 4/Period of record began Nov. 1961.																
MISCELLANEOUS DATA																
RUNOFF PEAK DATA: YEAR (1965): Maximum — May 26, 124 cfs (3.34 ft). Minimum — June 29, no flow. PERIOD OF RECORD: Maximum — May 9, 1964, 2,450 cfs (8.07 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 250 cfs) 1965 — None.																
DAILY TEMPERATURE: See Page 69.7-3.																



1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 611 NEAR ALEX						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.28	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.02
2	.00	.00	.00	.00	.00	.74	.00	.00	.00	.00	.00	.02
3	.00	.00	.00	.03	.00	.00	.00	.00	1.16	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.20	.00	.11	.00	.00	.00	.00	.06	.00
6	.00	.00	.00	.00	.00	.00	.00	1.78	.00	.00	.00	.00
7	.00	.08	.00	.00	.00	.00	.00	.46	.00	.00	.00	.00
8	.00	.44	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.37	.13	.00	.00	.12	.00	.01	.00	.00	.00	.00	.00
10	.00	.00	.00	.11	.19	.00	.00	.45	.00	.00	.00	.17
11	.00	.03	.98	.24	.00	.03	.00	.00	.00	.01	.00	.02
12	.00	.00	.03	.00	.00	.21	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.46	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.65	.04	.00	.00	.02	.00	.00	.00	.02
15	.00	.00	.00	.00	.00	.02	.00	.15	.00	.00	.00	.00
16	.00	.00	.01	.00	.00	.00	.00	.15	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.83	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.22	.88	.00	.00
19	.00	.00	.00	.00	.06	.00	.00	.00	.99	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.65	.02	.00	.02	.00
21	.58	.00	.00	.00	.00	.63	.00	.00	.12	.00	.00	.00
22	.14	.00	.00	.00	.00	.11	.00	.35	.00	.00	.00	.00
23	.00	.05	.00	.00	.00	.00	.00	.06	.00	.00	.00	.22
24	.00	.00	.00	.01	.13	.00	.00	.00	.00	.00	.00	.44
25	.00	.00	.09	.01	.00	.12	.66	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	1.55	.00	.02	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.01	.00	.00	.02	.00	.00	.00	.00
28	.00	.01	.00	.00	.45	.00	.25	1.02	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00		.00		.00	.54		.00		.00
TOTAL	1.37	.74	1.11	1.31	3.20	2.57	.94	5.68	3.34	.89	.08	.91
STAAV	.76	1.05	1.36	1.72	3.77	3.26	1.83	2.72	3.26	1.51	2.81	.99

## NOTES:

YEARLY PRECIPITATION 22.14 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 7 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 611 NEAR ALEX						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.7	.3	.3	.4	.2	.2	.0	.0	.5	.0	.0	.0
2	.7	.3	.3	.4	.2	6.5	.0	.0	.1	.0	.0	.0
3	.2	.4	.3	.4	.2	.3	.0	.0	6.6	.0	.0	.0
4	.2	.4	.3	.4	.2	.2	.0	.0	2.1	.0	.0	.0
5	.2	.3	.3	.4	.2	.3	.0	.0	.1	.0	.0	.0
6	.2	.3	.3	.5	.2	.3	.0	6.5	.0	.0	.0	.0
7	.3	.3	.3	.3	.2	.2	.0	1.6	.0	.0	.0	.0
8	.2	.3	.3	.3	.2	.2	.0	3.0	.0	.0	.0	.0
9	.3	.4	.3	.3	.3	.2	.0	.1	.0	.0	.0	.0
10	.3	.3	.3	.4	.3	.1	.0	3.6	.0	.0	.0	.0
11	.3	.3	.4	.6	.3	.2	.0	.2	.0	.0	.0	.0
12	.3	.3	.7	.3	.2	.1	.0	.0	.0	.0	.0	.0
13	.3	.3	.4	.3	.3	.3	.0	.0	.0	.0	.0	.0
14	.2	.3	.4	1.0	.9	.2	.0	.0	.0	.0	.0	.0
15	.2	.3	.3	.6	.3	.2	.0	.0	.0	.0	.0	.0
16	.2	.3	.3	.4	.2	.2	.0	.0	.0	.0	.0	.0
17	.2	.3	.3	.4	.3	.2	.0	.0	.0	.0	.0	.0
18	.2	.3	.3	.3	.2	.2	.0	.0	.0	.0	.0	.0
19	.2	.3	.3	.3	.3	.2	.0	.0	1.2	.0	.0	.0
20	.2	.3	.3	.3	.2	.1	.0	.0	1.6	.0	.0	.0
21	.3	.3	.3	.3	.2	.4	.0	.0	.1	.0	.0	.0
22	.4	.3	.3	.2	.2	.5	.0	.4	.0	.0	.0	.0
23	.3	.3	.3	.2	.2	.2	.0	.8	.0	.0	.0	.0
24	.3	.3	.3	.2	.2	.2	.0	.1	.0	.0	.0	.2
25	.3	.3	.3	.2	.2	.2	.0	.0	.0	.0	.0	.4
26	.2	.3	.4	.3	10	.2	.0	.0	.0	.0	.0	.1
27	.2	.3	.3	.3	.4	.1	.0	.0	.0	.0	.0	.2
28	.3	.3	.4	.3	.6	.1	.0	2.2	.0	.0	.0	.1
29	.3		.3	.3	.3	.0	.0	.2	.0	.0	.0	.1
30	.3		.3	.2	.2	.0	.0	.0	.0	.0	.0	.1
31	.3		.3		.2		.0	.6		.0		.1
MEAN	.3	.3	.3	.4	.6	.4	.0	.6	.4	.0	.0	.0
INCHES	.043	.043	.050	.053	.089	.060	.000	.095	.060	.000	.000	.006

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .004913. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 403.7. YEARLY MEAN DISCHARGE, .3 CFS. YEARLY DISCHARGE, .499 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA AREA — 563 ACRES		WATERSHED 612 NEAR ALEX (.88 SQ. MILES)					
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P1/ Q	1.66 .000	.76 .000	1.13 .000	1.82 .004	3.16 .004	2.81 .013	1.25 .000	6.41 .059	3.12 .004	.96 .000	.09 .000	.87 .000	24.04 .084
STA AVG P2/ Q	.82 .196	1.03 .135	1.39 .133	2.30 .325	3.56 .152	3.46 .427	2.08 .072	2.86 .016	3.16 .147	1.40 .014	2.66 .048	.99 .222	25.71 1.887
MEAN P3/ 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-7	.0537	8-7	.0320	8-7	.0405	8-7	.042	8-7	.042	8-7	.042	8-7	.042	8-6	.060

MAXIMUMS FOR PERIOD OF RECORD 4/																
19 61 TO 1965	6-23 1963	.4014	6-23 1963	.3454	6-23 1963	.5487	6-23 1963	.733	6-23 1963	.756	6-23 1963	.756	6-23 1963	.756	6-23 1963	.785

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.9-1. For maps, see foregoing reference, Topography map, P. 69.8-5 and Geologic map, P. 69.7-9. For revised Composite map, see P. 69.7-21. 1/Precipitation data obtained from a Theissen weighted average of 2 gages on the watershed. 2/Precipitation records began Oct. 1961; runoff records began Nov. 1961. 3/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 4/Period of record began Nov. 1961.

MISCELLANEOUS DATA													
RUNOFF PEAK DATA: YEAR (1965): Maximum — Aug. 7, 30 cfs (1.71 ft). Minimum — Jan. 1, no flow. PERIOD OF RECORD: Maximum — June 23, 1963, 231 cfs (2.26 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 100 cfs) 1965 — None.													
DAILY TEMPERATURE: See Page 69.7-3.													

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 612 NEAR ALEX						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.61	.00	.00	.00	.00	.12	.00	.00	.00	.00	.00	.02
2	.00	.00	.00	.00	.00	.54	.00	.00	.00	.00	.00	.02
3	.00	.00	.00	.11	.00	.00	.00	.00	.94	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.19	.00	.10	.00	.00	.00	.00	.05	.00
6	.00	.00	.00	.00	.00	.00	.02	1.74	.00	.00	.00	.00
7	.00	.08	.00	.00	.00	.00	.00	.83	.00	.00	.00	.00
8	.01	.44	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
9	.33	.12	.00	.00	.11	.00	.02	.00	.00	.00	.00	.00
10	.00	.00	.00	.04	.17	.00	.00	.60	.00	.00	.00	.19
11	.00	.04	.97	.49	.00	.00	.00	.00	.00	.02	.00	.02
12	.00	.00	.03	.00	.00	.31	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.67	.45	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.92	.03	.00	.00	.07	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.00	.00
16	.00	.00	.02	.00	.00	.00	.00	.14	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.65	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.24	.94	.00	.00
19	.00	.00	.00	.00	.04	.00	.00	.00	1.11	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.57	.00	.00	.04	.00
21	.55	.00	.00	.00	.00	1.01	.00	.00	.18	.00	.00	.00
22	.15	.00	.00	.00	.00	.13	.00	.52	.00	.00	.00	.00
23	.01	.04	.00	.00	.00	.02	.00	.09	.00	.00	.00	.13
24	.00	.00	.00	.01	.11	.00	.00	.00	.00	.00	.00	.45
25	.00	.00	.11	.00	.00	.13	.95	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	1.33	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.00	.00
28	.00	.04	.00	.00	.69	.00	.26	1.09	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00	-----	.00	-----	.00	.51	-----	.00	-----	.00
TOTAL	1.66	.76	1.13	1.82	3.16	2.81	1.25	6.41	3.12	.96	.09	.87
STAAV	.82	1.03	1.39	2.30	3.56	3.46	2.08	2.86	3.16	1.40	2.66	.99

NOTES:

YEARLY PRECIPITATION 24.04 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 2 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 612 NEAR ALEX						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	.0	.4	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	.0	.8	.0	.0	.0	.0
8	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0	.0
22	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
27	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
29	.0		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	.0	-----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31	.0		.0	-----	.0	-----	.0	.0	-----	.0	-----	.0
MEAN	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
INCHES	.000	.000	.000	.004	.004	.013	.000	.059	.004	.000	.000	.000

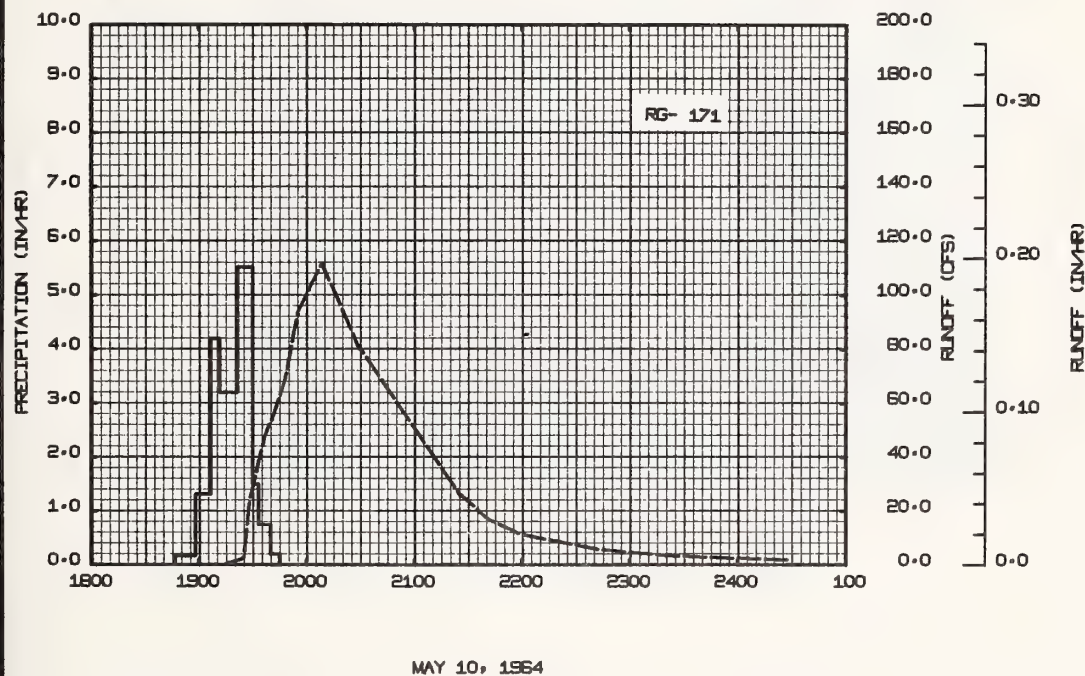
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .04228. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 46.92. YEARLY MEAN DISCHARGE, .0 CFS. YEARLY DISCHARGE, .084 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				612			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
				Event of May 10, 1964										
			5-10	RG	171		5-10	1902	.0	.0000				
				1845	.00	.00		1909	2.5	.0003				
				1852	.17	.02		1911	23.9	.0010				
				1857	1.32	.13		1916	47.7	.0061				
				1900	4.20	.34		1920	59.0	.0127				
				1906	3.20	.66								
				1911	5.52	1.12		1923	69.7	.0185				
				1913	1.90	1.17		1927	93.5	.0286				
				1917	.75	1.22		1935	111.9	.0521				
				1920	.20	1.23		1947	81.6	.0863				
								2021	26.6	.1406				
								2031	16.9	.1468				
								2042	11.3	.1516				
								2108	5.7	.1581				
								2131	3.4	.1612				
								2211	1.7	.1642				

Watershed conditions: The land use of this .88 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.9-1.

Watershed conditions: The land use of this .88 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.9-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .001762. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.9-2. FOR ISOHYETAL MAP, SEE PAGE 69.19-6.

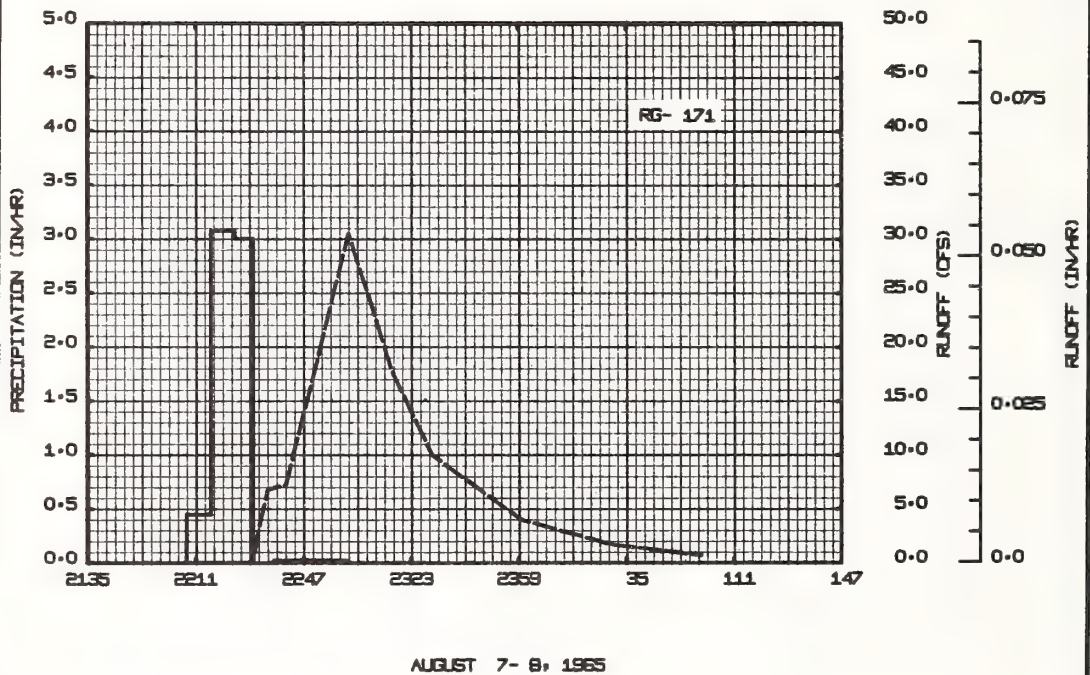


CHICKASHA, OKLAHOMA WATERSHED 612



1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				612	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of August 7-8, 1965												
Watershed conditions: The land use of this .88 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.1-1.			8- 7	RG	171		8- 7	2227	.0	.0000		
				2208	.00	.00		2230	.1	.0001		
				2216	.45	.06		2233	3.3	.0003		
				2224	3.08	.47		2236	6.8	.0007		
				2230	3.00	.77		2242	7.3	.0020		
				2237	.00	.77						
			2302	.02	.78	2251		17.2	.0053			
						2303		30.5	.0138			
						2318		17.5	.0244			
						2330		10.0	.0293			
			8- 8					2400	4.0	.0355		
								0030	1.7	.0381		
								0100	.7	.0392		

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .001762. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.9-2, THIS PUBLICATION. FOR ISOHYETAL MAP SEE P. 69.19-7.



CHICKASHA, OKLAHOMA WATERSHED 612

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 111 NEAR ANADARKO AREA — 16,634 ACRES (26.0 SQ. MILES)							
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965	P 1/ Q	.77 .112	.76 .105	1.10 .124	2.53 .178	3.16 .110	4.10 .104	.32 .006	3.29 .012	2.39 .014	1.57 .015	.09 .028	.77 .052	20.85 .860
STA AVG	P 2/ Q	.52 .115	1.06 .116	1.21 .129	2.04 .149	4.05 .225	4.01 .086	1.56 .057	2.36 .030	3.65 .088	1.37 .037	2.63 .112	.85 .091	25.31 1.235
MEAN 65 YR	P 3/ Q	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	4-5	.0206	4-5	.0192	4-5	.0332	4-5	.053	4-5	.063	4-5	.070	4-5	.076	4-1	.102

MAXIMUMS FOR PERIOD OF RECORD 4/																
1962 TO 1965	5-10 1964	.0564	5-10 1964	.0538	5-10 1964	.0962	5-10 1964	.156	5-10 1964	.172	5-10 1964	.185	5-9 1964	.324	5-9 1964	.326

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.10-1. For maps, see foregoing reference, Topography map, P. 69.10-4 and Geologic map, P. 69.7-9. For revised Composite map, see P. 69.7-21. 1/Precipitation data obtained from a Thiessen weighted average of 6 gages on the watershed. 2/Precipitation records began Oct. 1961; runoff records began June 1962. 3/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 4/Period of record began June 1962.

MISCELLANEOUS DATA														
RUNOFF PEAK DATA: YEAR (1965): Maximum — Apr. 5, 346 cfs (4.33 ft). Minimum — no flow, July 12 (1.00 ft). PERIOD OF RECORD: Maximum — May 10, 1964, 946 cfs (5.76 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 400 cfs) 1965 — None.														
DAILY TEMPERATURE: See Page 69.7-3.														

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 111 NEAR ANADARKO						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.07	.00	.00	.00	.00	1.03	.00	.00	.00	.00	.00	.05
2	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.05	.00	.00	.00	.00	.04	.01	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
5	.00	.00	.00	1.18	.00	.10	.01	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	1.11	.30	.00	.00	.00
7	.00	.07	.03	.04	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.18	.00	.00	.02	.00	.00	.00	.00	.00	.06	.00
9	.17	.43	.00	.00	.99	.00	.13	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.23	.00	.00	.00	.00	.00	.00	.15
11	.00	.01	.98	.00	.00	.00	.00	.00	.00	.00	.00	.02
12	.00	.00	.05	.00	.00	.52	.00	.00	.00	.01	.00	.00
13	.00	.00	.00	.00	.53	.84	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.88	.00	.00	.00	.53	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.11	.00	.07	.00	.00	.00	.00
16	.00	.00	.04	.00	.00	.00	.00	.13	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.07	1.54	.00	.07
19	.00	.00	.00	.00	.03	.00	.00	.00	1.59	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.05	.12	.00	.03	.00
21	.48	.00	.00	.00	.00	.52	.00	.00	.46	.00	.00	.00
22	.05	.00	.00	.00	.00	.18	.00	.00	.01	.00	.00	.00
23	.00	.01	.00	.00	.00	.00	.00	.04	.00	.00	.00	.06
24	.00	.00	.00	.24	.13	.00	.00	.00	.02	.00	.00	.39
25	.00	.00	.00	.00	.00	.65	.06	.00	.00	.00	.00	.00
26	.00	.00	.00	.14	.52	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.01	.00	.01	.09	.00	.00	.00	.00
28	.00	.06	.00	.00	.70	.00	.11	1.25	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00		.00		.00	.02		.00		.03
TOTAL	.77	.76	1.10	2.52	3.16	4.10	.32	3.29	2.39	1.57	.09	.77
STA AV	.52	1.06	1.21	2.04	4.05	4.01	1.56	2.36	3.65	1.37	2.63	.85

NOTES

YEARLY PRECIPITATION 20.85 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 6 GAGES ON THE WATERSHED.

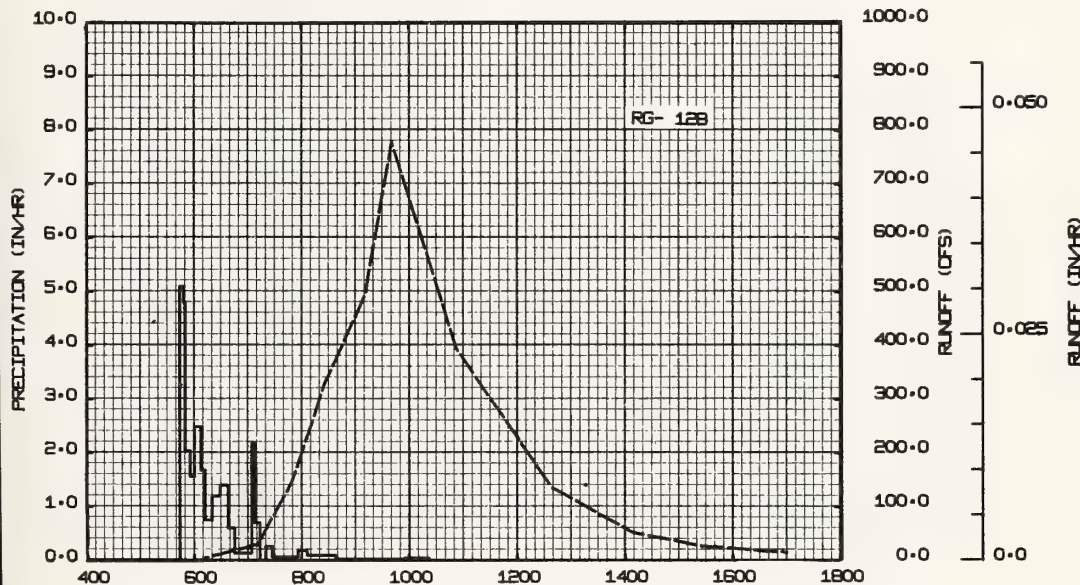
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 111 NEAR ANADARKO						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	2.4	2.1	2.5	3.0	1.5	1.4	.7	.0	.0	.0	.6	.9
2	2.4	2.1	2.3	3.0	1.4	19	.6	.0	.0	.0	.6	1.0
3	2.3	2.4	2.4	3.0	1.4	2.6	.5	.0	.0	.0	.6	1.1
4	2.1	2.5	2.4	2.7	1.5	1.9	.5	.0	.0	.0	.6	1.1
5	2.3	2.5	2.5	* 4.6	1.5	1.8	.5	.0	.0	.1	* .7	1.1
6	2.3	2.5	2.5	6.8	1.4	1.4	.5	* 1.9	.0	.0	.7	1.1
7	2.3	2.7	2.3	3.5	1.3	1.3	.3	.6	.0	.0	.7	1.1
8	2.4	2.7	2.3	3.1	1.5	1.1	.3	.0	.0	.0	.7	1.0
9	2.4	4.6	2.4	2.7	19	1.3	.3	.0	.0	.0	.6	1.0
10	2.5	3.8	2.4	2.6	6.1	1.1	.2	.0	.0	.0	.6	1.2
11	2.5	3.2	4.3	2.1	2.7	1.0	.1	.0	.0	.0	.6	1.3
12	2.6	2.6	5.7	2.1	2.1	1.0	.0	.0	.0	.0	.6	1.3
13	2.6	2.7	3.7	2.4	2.1	11	.0	.0	.0	.0	.5	1.1
14	2.6	2.7	3.5	5.4	4.0	2.1	.0	.0	.0	.0	.5	1.1
15	2.5	2.6	3.1	4.1	1.9	1.8	.0	.0	.0	.0	.5	1.1
16	2.1	2.5	3.1	2.8	1.8	1.8	.0	.0	.0	.0	.5	1.1
17	2.3	2.6	2.8	2.7	1.7	1.4	.0	.0	.0	.0	.4	1.1
18	2.5	2.6	2.5	2.5	1.6	1.3	.0	.0	.0	* 2.6	.5	1.1
19	2.5	2.6	2.5	2.4	1.7	1.3	.0	.0	5.4	.9	.8	1.1
20	2.5	2.6	2.4	2.1	1.6	1.1	.0	.0	.1	.7	.6	1.1
21	3.2	2.3	2.6	2.1	1.4	1.1	.0	.0	4.5	.5	.7	1.1
22	4.1	2.3	2.6	2.0	1.3	2.4	.0	.0	.0	.5	.7	1.1
23	3.0	2.1	2.7	2.0	1.3	1.2	.0	.0	.0	.7	.7	1.2
24	2.6	2.0	2.6	1.8	1.5	1.1	.0	.0	.0	.6	.7	1.7
25	2.5	2.5	2.6	2.5	1.4	4.9	.0	.0	.0	.5	.6	1.4
26	2.3	2.6	2.7	2.0	2.7	1.7	.0	.0	.0	.4	.7	1.3
27	2.4	2.5	2.7	2.0	1.5	1.1	.0	.0	.0	.5	.9	1.2
28	2.5	2.5	2.6	1.8	3.8	.8	.0	5.6	.0	.6	.8	1.2
29	2.5		2.6	1.7	1.5	.8	.0	.1	.0	.6	.8	1.3
30	2.4		2.6	1.5	1.3	.7	.0	.0	.0	.6	.8	1.3
31	2.5		2.8		1.3		.0	.0		.6		1.4
MEAN	2.5	2.6	2.8	4.1	2.5	2.4	.1	.3	.3	.3	.6	1.2
INCHES	.112	.105	.124	.178	.110	.104	.006	.012	.014	.015	.028	.052

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .001431. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 1.386. YEARLY MEAN DISCHARGE, 1.6 CFS. YEARLY DISCHARGE, .860 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				111			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 15, 1962										
			9-15	RG	128		9-15	0612	3.3	.0000
				0544	.00	.00		0712	29.6	.0010
				0548	5.10	.34		0751	148.8	.0045
				0550	3.00	.50		0827	329.0	.0131
				0555	2.83	.67		0912	493.2	.0315
				0600	1.56	.80				
				0607	2.49	1.09		0942	779.1	.0505
				0612	1.68	1.23		1054	393.7	.0925
				0620	.75	1.33		1239	136.4	.1202
				0629	1.20	1.51		1409	52.4	.1287
				0632	1.40	1.58		1527	26.4	.1318
				0638	1.40	1.72		1700	15.0	.1338
				0645	.60	1.79				
				0704	.13	1.83				
				0707	2.20	1.94				
				0713	.70	2.01				
				0720	.00	2.01				
				0727	.26	2.04				
				0756	.06	2.07				
				0806	.18	2.10				
				0838	.09	2.15				
				0955	.02	2.18				
				1022	.04	2.20				

Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.10-3.



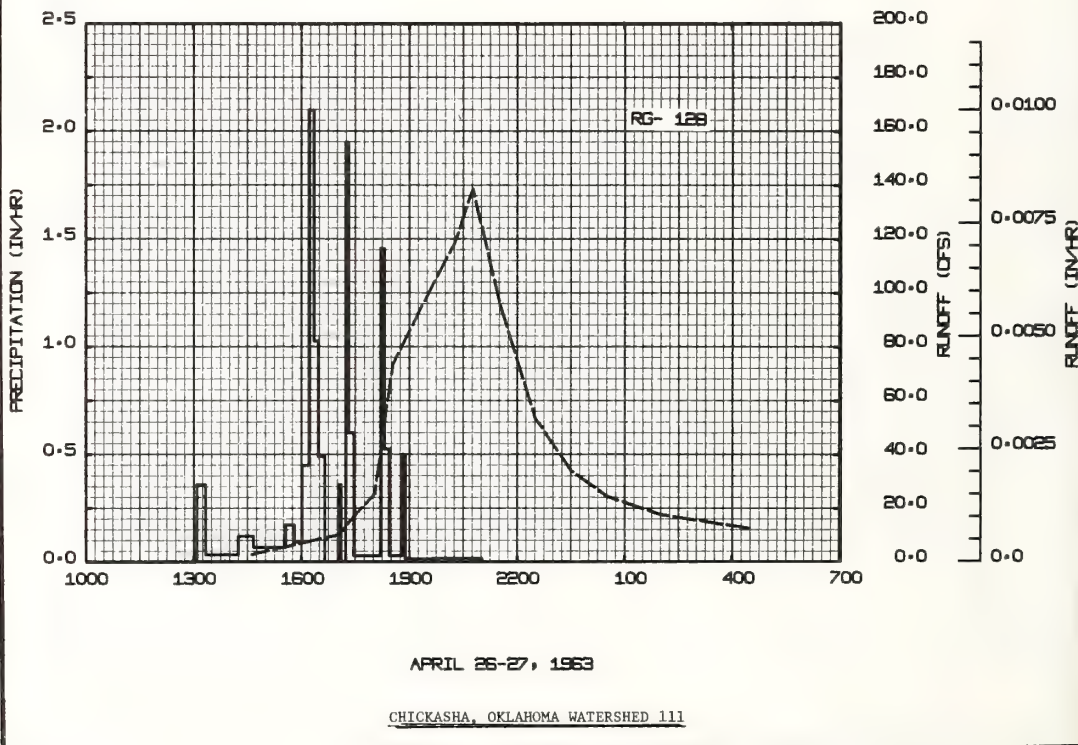
SEPTEMBER 15, 1962

CHICKASHA, OKLAHOMA WATERSHED 111



1963 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				111			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of April 26-27, 1963										
<p>Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.</p>			4-26	RG	128		4-26	1439	2.9	.0000
				1305	.00	.00		1703	10.1	.0009
				1320	.36	.09		1803	25.5	.0020
				1415	.03	.12		1833	73.3	.0036
				1440	.12	.17		1924	96.5	.0079
				1534	.07	.23				
				1548	.17	.27		2015	118.5	.0134
				1601	.09	.29		2045	138.7	.0173
				1613	.45	.38		2130	96.3	.0226
				1621	2.10	.66		2230	53.5	.0271
				1628	1.03	.78		2330	34.1	.0298
			4-27	1639	.49	.87	0030	24.4	.0316	
				1701	.00	.87	0200	17.6	.0335	
				1706	.36	.90	0430	12.5	.0358	
				1714	.00	.90				
				1718	1.95	1.03				
				1722	.60	1.07				
				1727	.60	1.12				
				1811	.03	1.14				
				1818	1.46	1.31				
				1826	.53	1.38				
				1847	.03	1.39				
				1853	.50	1.44				
				1939	.01	1.45				
				2101	.02	1.47				

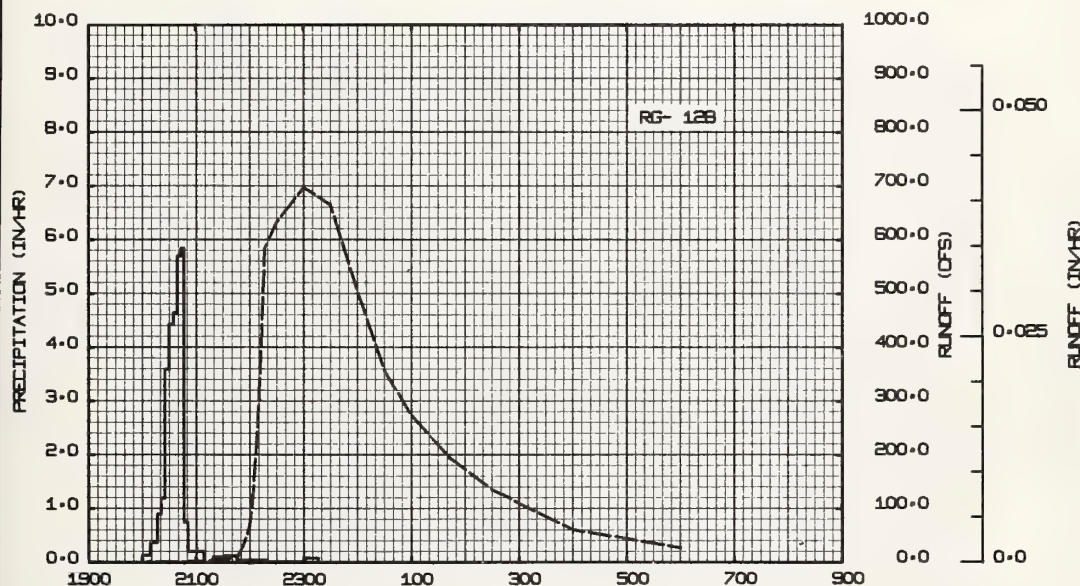
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.10-2.



1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				111			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of May 9-10, 1964										
			5- 9	RG	128		5- 9	2006	.5	.0000
				2000	.00	.00		2100	1.6	.0001
				2009	.13	.02		2130	4.1	.0002
				2017	.38	.07		2148	11.3	.0004
				2021	.90	.13		2154	30.1	.0006
				2025	1.20	.21				
				2030	3.60	.51		2200	67.7	.0009
				2035	4.44	.88		2206	151.1	.0016
				2039	4.65	1.19		2212	313.1	.0030
				2043	5.70	1.57		2218	583.7	.0058
				2047	5.85	1.96		2230	633.4	.0131
				2051	.75	2.01		2300	697.6	.0330
				2057	.20	2.03		2330	665.2	.0533
				2109	.20	2.07		2400	506.2	.0708
				2119	.00	2.07	5-10	0030	356.6	.0837
				2131	.10	2.09		0100	274.6	.0932
				2146	.12	2.12		0142	197.0	.1031
				2218	.04	2.14		0230	135.2	.1111
				2302	.01	2.15		0400	60.7	.1199
				2317	.08	2.17		0600	27.4	.1252

Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.10-2. FOR ISOHYETAL MAP SEE P. 69.19-5.



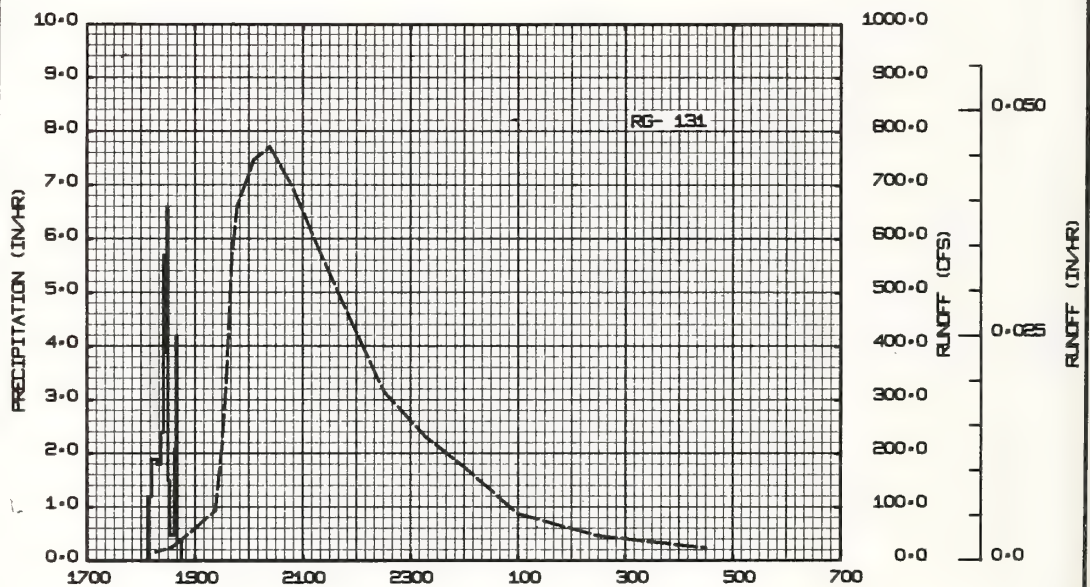
MAY 9-10, 1964

CHICKASHA, OKLAHOMA WATERSHED 111

1964			SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA			111		
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of May 10-11, 1964											
			5-10	RG	131						
				1805	.00	.00	5-10	1818	15.6	.0000	
				1808	1.40	.07		1836	24.7	.0004	
				1812	1.20	.15		1900	59.6	.0014	
				1818	1.90	.34		1924	94.2	.0033	
				1822	1.80	.46		1930	210.6	.0043	
				1825	2.40	.58		1936	339.5	.0059	
				1827	5.70	.77		1942	571.0	.0087	
				1829	3.90	.90		1948	660.9	.0124	
				1830	6.60	1.01		2006	747.1	.0251	
				1832	1.50	1.06		2024	771.8	.0387	
				1837	.48	1.10		2048	700.1	.0563	
				1839	2.10	1.17		2118	583.1	.0755	
				1840	4.20	1.24		2200	423.6	.0966	
				1845	.36	1.27		2230	316.0	.1076	
								2318	231.4	.1207	
							5-11	2400	175.2	.1293	
								0100	88.4	.1372	
								0230	46.7	.1433	
								0430	23.9	.1475	

Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.10-2. FOR ISOHYETAL MAP, SEE P. 69.19-6.



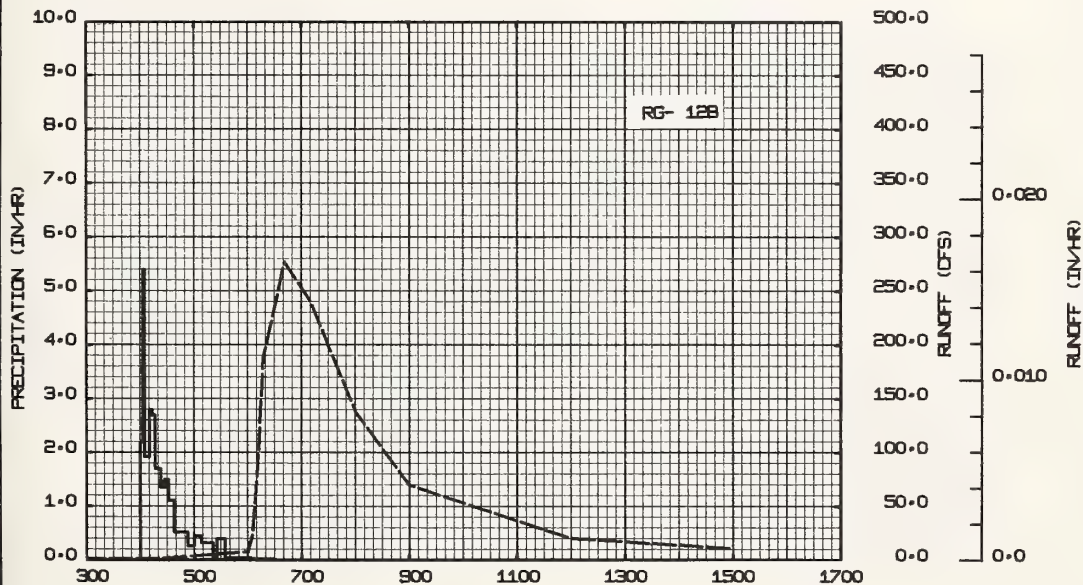
MAY 10-11, 1964

CHICKASHA, OKLAHOMA WATERSHED 111



1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				111			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of June 11, 1964										
			6-11	RG	128					
				0400	.00	.00	6-11	0000	1.1	.0000
				0403	2.20	.11		0424	1.1	.0003
				0405	5.40	.29		0600	7.6	.0008
				0410	1.92	.45		0606	22.5	.0009
				0413	2.80	.59		0612	90.0	.0013
Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.				0417	2.70	.77		0618	187.8	.0022
				0423	1.70	.94		0642	277.2	.0078
				0427	1.35	1.03		0712	238.9	.0155
				0431	1.50	1.13		0800	138.6	.0245
				0438	1.11	1.26		0900	70.0	.0308
				0453	.52	1.39		1200	20.2	.0389
				0500	.26	1.42		1500	10.7	.0417
				0508	.45	1.48				
				0521	.32	1.55				
				0525	.00	1.55				
				0534	.40	1.61				
				0603	.04	1.63				
				0629	.02	1.64				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.10-2.



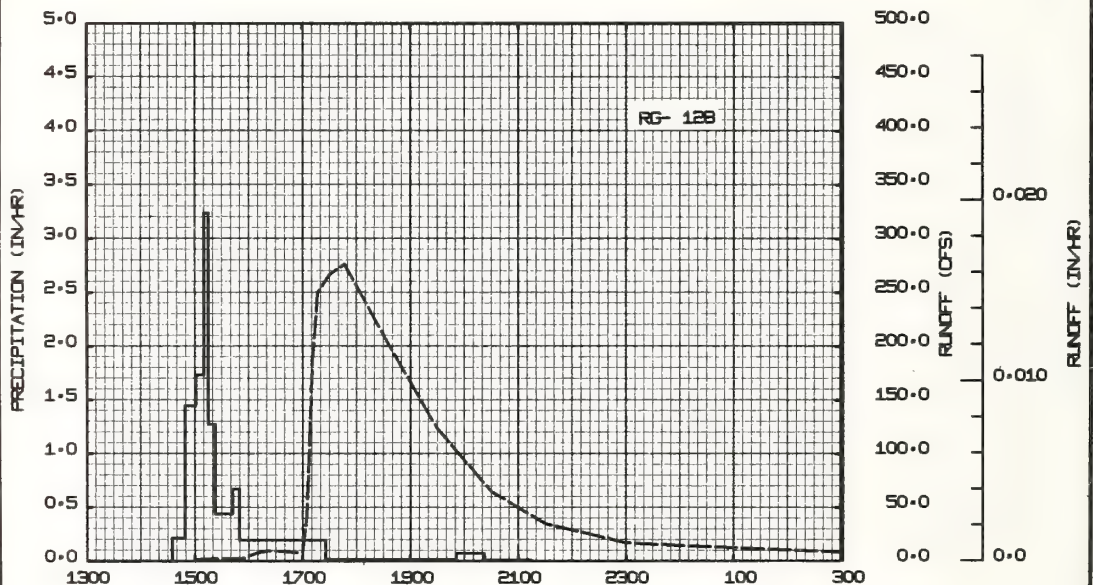
JUNE 11, 1964

CHICKASHA, OKLAHOMA WATERSHED 111



1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				111	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
				Event of November 3-4, 1964								
			11- 3	RG	128		11- 3					
				1435	.00	.00		1500	1.2	.0000		
				1449	.21	.05		1530	2.6	.0001		
				1501	1.45	.34		1554	2.5	.0002		
				1510	1.73	.60		1612	8.1	.0003		
				1515	3.24	.87		1624	9.7	.0005		
Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.				1523	1.28	1.04		1654	8.0	.0008		
				1542	.44	1.18		1700	8.7	.0009		
				1550	.68	1.27		1706	41.2	.0011		
				1726	.19	1.58		1712	187.9	.0018		
				1951	.02	1.62		1718	249.9	.0032		
				2022	.08	1.66		1730	266.6	.0063		
				2114	.01	1.67		1748	276.4	.0112		
								1830	211.2	.0214		
								1930	123.8	.0315		
								2030	65.1	.0371		
								2130	35.0	.0402		
								2300	17.2	.0426		
				2400	14.5	.0436						
						11- 4	0300	8.4	.0457			

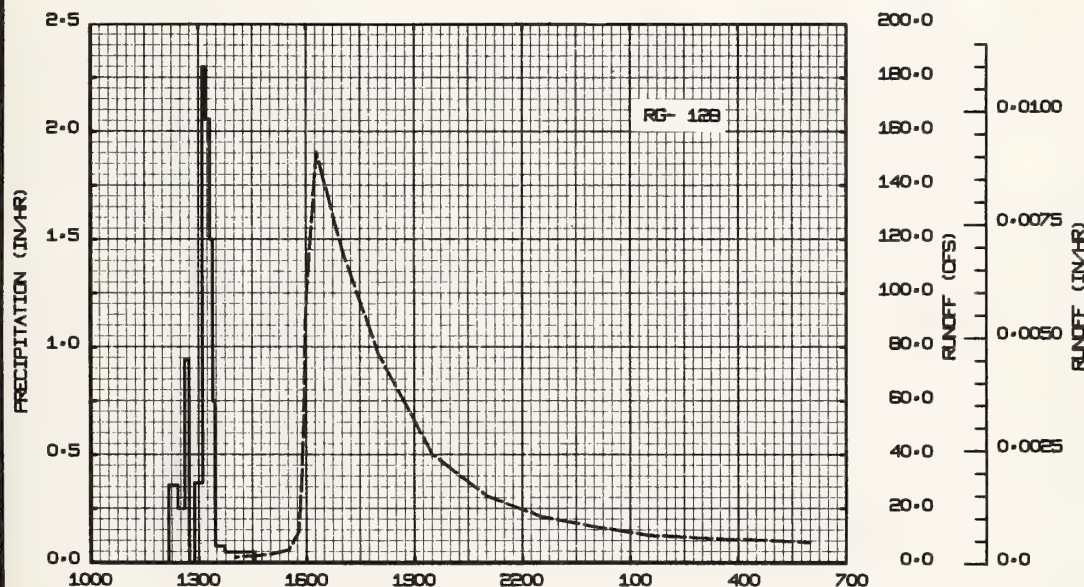
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.10-2.



CHICKASHA, OKLAHOMA WATERSHED 111

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				111			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of May 9-10, 1965										
			5- 9	RG	128					
				1210	.00	.00	5- 9	1400	1.8	.0000
				1225	.36	.09		1500	3.1	.0001
				1237	.25	.14		1530	4.6	.0003
				1244	.94	.25		1548	11.7	.0005
				1253	.00	.25		1554	35.9	.0007
Watershed conditions: The land use of this 25.99 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.10-1.										
				1306	.37	.33		1600	99.3	.0012
				1312	2.30	.56		1618	152.5	.0035
				1319	2.06	.80		1700	115.8	.0091
				1323	1.50	.90		1800	77.5	.0149
				1327	.75	.95		1930	40.1	.0202
				1343	.08	.97		2100	24.6	.0232
				1434	.05	1.01		2230	17.1	.0251
								2400	13.3	.0265
							5-10	0130	10.1	.0276
								0300	9.0	.0285
								0600	7.5	.0300

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00005962. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.10-2, THIS PUBLICATION.



MAY 9-10, 1965

CHICKASHA, OKLAHOMA WATERSHED 111

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 131 NEAR ANADARKO AREA — 25,660 ACRES (40.1 SQ. MILES)								
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P <sub>1</sub> / O	1.10 .085	.72 .076	1.09 .081	2.28 .092	4.66 .175	3.15 .034	.44 .000	5.26 .015	2.38 .003	2.17 .002	.04 .001	.93 .013	24.22 .577	
STA AVG P <sub>2</sub> / O	.63 .083	1.16 .093	1.20 .095	2.02 .104	4.06 .134	3.69 .028	1.88 .002	2.84 .007	3.58 .020	1.62 .016	3.03 .051	.91 .055	26.62 .688	
MEAN P <sub>3</sub> / 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	5-9	.0177	5-9	.0171	5-9	.0327	5-9	.078	5-9	.096	5-9	.106	5-9	.112	5-9	.135

MAXIMUMS FOR PERIOD OF RECORD 4/																
1962 TO 1965	5-9 1965	.0177	5-9 1965	.0171	5-9 1965	.0327	5-9 1965	.078	5-9 1965	.096	5-9 1965	.106	5-9 1965	.112	5-9 1965	.135

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.11-1. For maps, see foregoing reference, Geologic map, P. 69.7-9 and Topography map P. 69.11-4. For revised Composite map, see P. 69.7-21. 1/Precipitation data obtained from a Thiessen weighted average of 10 gages on the watershed. 2/Precipitation records began Oct. 1961; runoff records began Aug. 1962. 3/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 4/Period of record began Aug. 1962.

MISCELLANEOUS DATA

RUNOFF PEAK DATA: YEAR (1965): Maximum — May 9, 459 cfs (5.03 ft). Minimum — July 1, no flow (1.00 ft).  
PERIOD OF RECORD: Maximum — May 9, 1965, 459 cfs (5.03 ft). Minimum — no flow, July 1.  
PEAK DISCHARGES: (Above base flow of 400 cfs) 1965 — May 9, 459 cfs (5.03 ft)

DAILY TEMPERATURE: See Page 69.7-3.

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 131 NEAR ANADARKO						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.21	.00	.00	.00	.00	.83	.00	.00	.00	.00	.00	.06
2	.00	.00	.00	.01	.00	.12	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.13	.00	.00	.00	.00	.04	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
5	.00	.00	.00	.61	.00	.14	.02	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	1.65	.00	.00	.00	.00
7	.00	.07	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.21	.00	.01	.03	.00	.00	.00	.00	.00	.00	.00
9	.29	.37	.00	.00	2.01	.00	.03	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.24	.00	.00	.03	.00	.00	.00	.21
11	.00	.02	.98	.00	.00	.01	.00	.00	.00	.01	.00	.01
12	.00	.00	.04	.00	.00	.38	.00	.00	.00	.00	.00	.00
13	.00	.00	.03	.00	.58	.59	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.10	.01	.00	.00	.42	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.09	.00	.17	.01	.02	.00	.00
16	.00	.00	.01	.00	.00	.00	.00	.57	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.19	2.11	.00	.07
19	.00	.00	.00	.00	.01	.00	.00	.00	1.20	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.08	.09	.00	.04	.00
21	.51	.00	.00	.00	.00	.54	.00	.00	.70	.00	.00	.00
22	.08	.00	.00	.00	.00	.17	.00	.00	.00	.00	.00	.00
23	.01	.03	.00	.00	.00	.00	.00	.06	.00	.00	.00	.15
24	.00	.00	.00	.28	.40	.00	.02	.00	.01	.00	.00	.39
25	.00	.00	.06	.00	.00	.28	.05	.00	.00	.00	.00	.00
26	.00	.00	.00	.12	.77	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.19	.00	.00	.00	.00
28	.00	.02	.00	.00	.60	.00	.32	2.04	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00	-----	.01	-----	.00	.05	-----	.00	-----	.03
TOTAL	1.10	.72	1.09	2.28	4.66	3.15	.44	5.26	2.38	2.17	.04	.93
STAAV	.63	1.16	1.20	2.02	4.06	3.69	1.88	2.84	3.58	1.62	3.03	.91

NOTES:

YEARLY PRECIPITATION 24.22 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 10 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 131 NEAR ANADARKO						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	2.4	2.5	2.3	2.9	1.3	1.3	.0	.0	.0	.0	.0	.1
2	3.7	2.1	2.0	3.1	1.2	1.1	.0	.0	.0	.0	.0	.1
3	2.6	2.4	2.1	3.6	1.2	2.8	.0	.0	.0	.0	.0	.2
4	2.5	2.4	2.1	3.1	1.2	1.8	.0	.0	.0	.0	.0	.1
5	2.5	2.6	2.1	9.1	1.2	1.9	.0	.0	.0	.0	.0	.1
6	2.6	2.7	2.1	4.3	1.2	1.3	.0	.3	.0	.0	.0	.1
7	2.6	2.8	2.0	3.6	1.0	1.0	.0	1.6	.0	.0	.0	.1
8	2.6	2.8	2.1	3.2	1.0	.9	.0	.0	.0	.0	.0	.2
9	2.4	7.1	2.1	2.6	97	.7	.0	.0	.0	.0	.0	.2
10	2.7	4.7	2.1	2.5	21	.6	.0	.0	.0	.0	.0	.3
11	3.2	3.6	4.6	1.4	6.5	.5	.0	.0	.0	.0	.0	.5
12	3.6	2.9	8.1	1.4	4.3	.5	.0	.0	.0	.0	.0	.4
13	3.2	3.1	4.0	2.1	3.4	2.3	.0	.0	.0	.0	.0	.3
14	2.9	3.1	3.3	8.6	7.8	1.2	.0	.0	.0	.0	.0	.3
15	2.8	2.8	3.2	12	3.3	.9	.0	.0	.0	.0	.0	.3
16	2.3	2.6	3.4	4.0	2.6	1.2	.0	.0	.0	.0	.0	.3
17	2.5	2.6	3.2	3.4	2.4	.7	.0	.0	.0	.0	.0	.3
18	2.6	2.7	2.7	3.1	2.0	.6	.0	.0	.0	2.0	.0	.4
19	2.7	2.7	2.5	2.7	1.7	.5	.0	.0	.0	.3	.0	.5
20	2.6	2.9	2.5	2.4	1.9	.5	.0	.0	.0	.0	.0	.4
21	3.9	2.7	2.8	2.2	1.5	.4	.0	.0	3.0	.0	.1	.4
22	6.3	2.6	2.8	2.0	1.2	1.2	.0	.0	.0	.0	.1	.5
23	4.0	2.7	2.7	1.8	1.2	.6	.0	.0	.0	.0	.1	.5
24	3.2	2.3	2.3	1.6	1.6	.5	.0	.0	.0	.0	.1	1.4
25	3.2	2.5	2.6	2.8	2.0	.9	.0	.0	.0	.0	.1	.9
26	2.5	2.5	2.7	2.4	5.2	.7	.0	.0	.0	.0	.1	.8
27	2.6	2.5	2.7	2.5	2.3	.3	.0	.0	.0	.0	.1	.8
28	2.7	2.6	2.8	1.9	4.9	.2	.0	* 14	.0	.0	.0	.8
29	2.7		2.6	1.7	2.7	.1	.0	.0	.0	.0	.0	.8
30	2.6	-----	2.6	1.5	1.6	.1	.0	.0	.0	.0	.1	.7
31	2.6		2.7	-----	1.3	-----	.0	.0	-----	.0	-----	.7
MEAN	2.9	2.9	2.8	3.3	6.1	1.2	.0	.5	.1	.1	.0	.4
INCHES	.085	.076	.081	.092	.175	.034	.000	.015	.003	.002	.001	.013

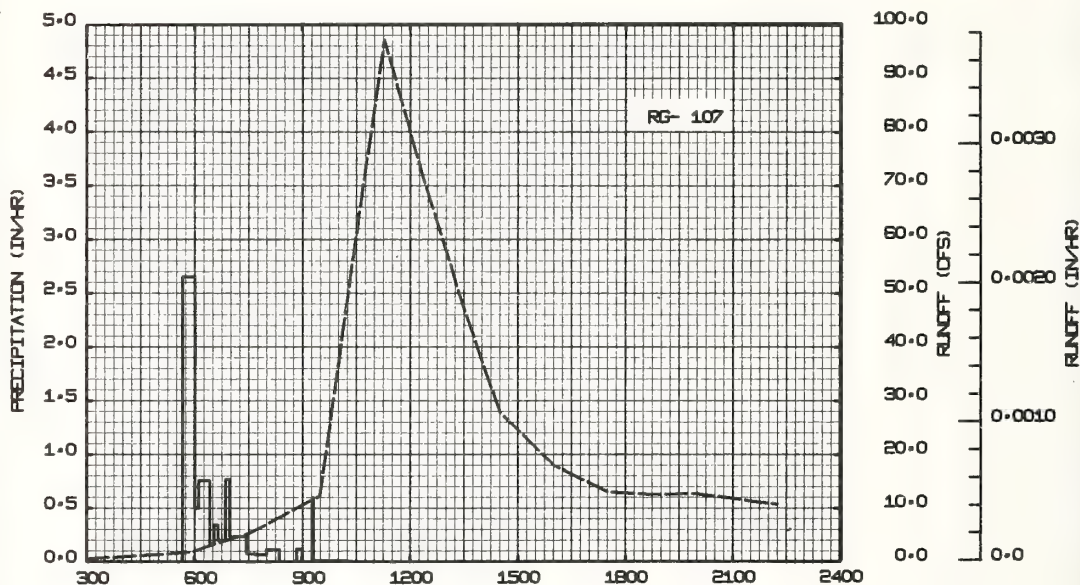
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0009276. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 2.138. YEARLY MEAN DISCHARGE, 1.7 CFS. YEARLY DISCHARGE, .577 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.



1962 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				131			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 15, 1962										
			9-15	RG	107		9-15			
				0540	.00	.00		0251	.4	.0000
				0601	2.35	.93		0554	1.8	.0001
				0607	.50	.98		0733	5.3	.0004
				0626	.76	1.22		0930	12.3	.0011
				0633	.17	1.24		1030	60.9	.0026
				0640	.34	1.28		1118	97.2	.0051
				0652	.20	1.32		1218	73.2	.0084
				0659	.77	1.41		1330	47.1	.0113
				0727	.24	1.52		1430	27.8	.0128
				0743	.08	1.54		1600	18.0	.0141
				0801	.07	1.56		1730	13.0	.0151
				0822	.11	1.60		1845	12.6	.0158
				0851	.00	1.60		2000	12.7	.0164
				0901	.12	1.62		2215	10.8	.0175
				0917	.00	1.62				
				0919	.60	1.64				
				1016	.01	1.65				

Watershed conditions: The land use of this 40.1 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.11-1

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00003865. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1962, USDA MISC. PUB. 1070, P. 69.11-3.



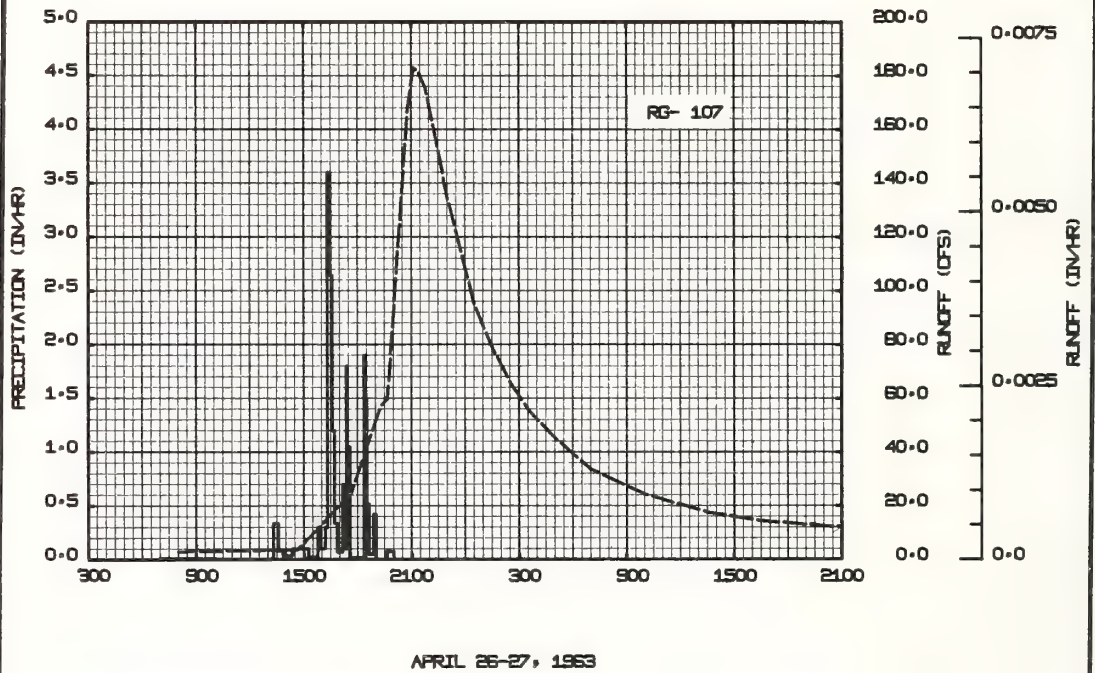
SEPTEMBER 15, 1962

CHICKASHA, OKLAHOMA WATERSHED 131

1963			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				131	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
			Event of April 26-27, 1963									
			4-26	RG	107							
				0700	.00	.00	4-26	0800	3.1	.0000		
				1005	.01	.03		1439	3.6	.0009		
				1318	.01	.05		1739	24.8	.0026		
				1334	.34	.14		1915	57.1	.0051		
				1349	.08	.16		1939	59.6	.0061		
Watershed conditions: The land use of this 40.1 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.11-1.					1421	.04	.18		2009	107.7	.0078	
					1515	.10	.27		2045	167.4	.0110	
					1545	.02	.28		2106	183.1	.0134	
					1553	.30	.32		2121	181.5	.0152	
					1611	.10	.35		2145	175.5	.0180	
					1617	.30	.38		2300	133.7	.0256	
					1628	3.60	1.04	4-27	0030	94.3	.0322	
					1633	2.64	1.26		0130	78.6	.0356	
					1640	1.20	1.40		0230	65.8	.0385	
					1649	.33	1.45		0330	55.7	.0408	
	1708	.06		1.47		0500	45.2	.0438				
	1714	.70		1.54		0700	33.7	.0469				
	1720	.10		1.55		1000	24.4	.0503				
	1724	1.80		1.67		1330	17.7	.0532				
	1729	.24	1.69		1630	14.4	.0551					
	1733	1.05	1.76		2100	12.0	.0575					
	1819	.01	1.77									
	1825	1.90	1.96									
	1829	1.50	2.06									
	1836	.51	2.12									
	1850	.04	2.13									
	1900	.42	2.20									
	1935	.00	2.20									
	1959	.08	2.23									

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00003865. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.11-2.

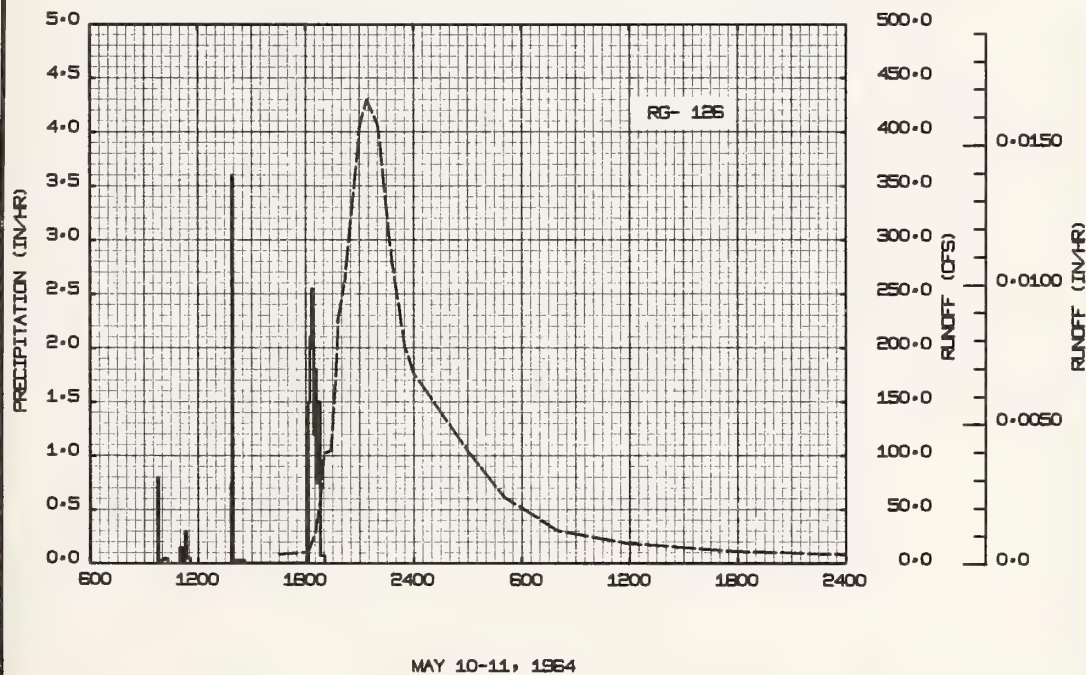
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00003865. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.11-2.



CHICKASHA, OKLAHOMA WATERSHED 131

1964			SELECTED RUNOFF EVENT,				CHICKASHA, OKLAHOMA				131	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
				Event of May 10-11, 1964								
			5-10	RG	126							
				0945	.00	.00	5-10	1630	9.0	.0000		
				0948	.80	.04		1806	10.7	.0006		
				1008	.03	.05		1830	28.4	.0010		
				1020	.05	.06		1848	58.8	.0015		
				1058	.00	.06		1900	102.7	.0022		
Watershed conditions: The land use of this 40.1 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.11-1												
				1106	.15	.08		1924	105.0	.0038		
				1116	.00	.08		1942	179.0	.0055		
				1122	.30	.11		1948	225.3	.0064		
				1134	.05	.12		2012	265.1	.0102		
				1350	.00	.12		2100	405.9	.0206		
				1354	.75	.17		2124	429.9	.0271		
				1356	3.60	.29		2200	407.0	.0369		
				1435	.03	.31		2248	281.2	.0476		
				1808	.01	.33		2330	201.5	.0542		
				1812	1.50	.43		2400	176.3	.0579		
				1818	2.10	.64	5-11	0300	104.7	.0742		
				1822	2.55	.81		0500	62.1	.0807		
				1825	2.00	.91		0800	30.6	.0861		
				1830	1.20	1.01		1200	18.4	.0900		
				1834	1.80	1.13		1800	10.9	.0934		
				1842	.75	1.23		2400	8.2	.0957		
				1846	1.50	1.33						
				1902	.08	1.35						

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00003865. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.11-2. FOR ISOHYETAL MAP SEE P. 69.19-6.



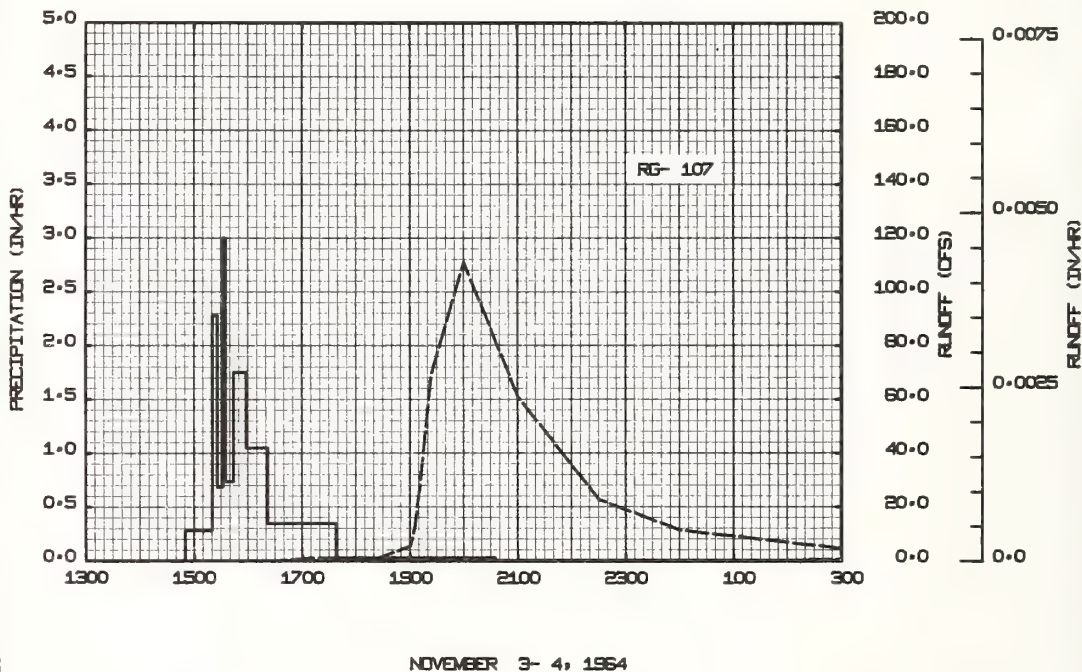
CHICKASHA, OKLAHOMA WATERSHED 131



1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				131			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of November 3-4, 1964										
			11- 3	RG	107		11- 3			
				1450	.00	.00		1630	.0	.0000
				1520	.28	.14		1712	1.0	.0000
				1525	2.28	.33		1824	.8	.0001
				1532	.69	.41		1900	5.4	.0002
				1534	3.00	.51		1906	11.8	.0003
				1543	.73	.62		1912	29.3	.0004
				1557	1.76	1.03		1924	69.0	.0009
				1621	1.05	1.45		2000	111.1	.0030
				1737	.35	1.89		2100	61.0	.0064
				2035	.03	1.97		2230	22.7	.0089
							11- 4	2400	11.2	.0099
								0300	4.5	.0109

Watershed conditions: The land use of this 40.1 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.11-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00003865. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.11-2.

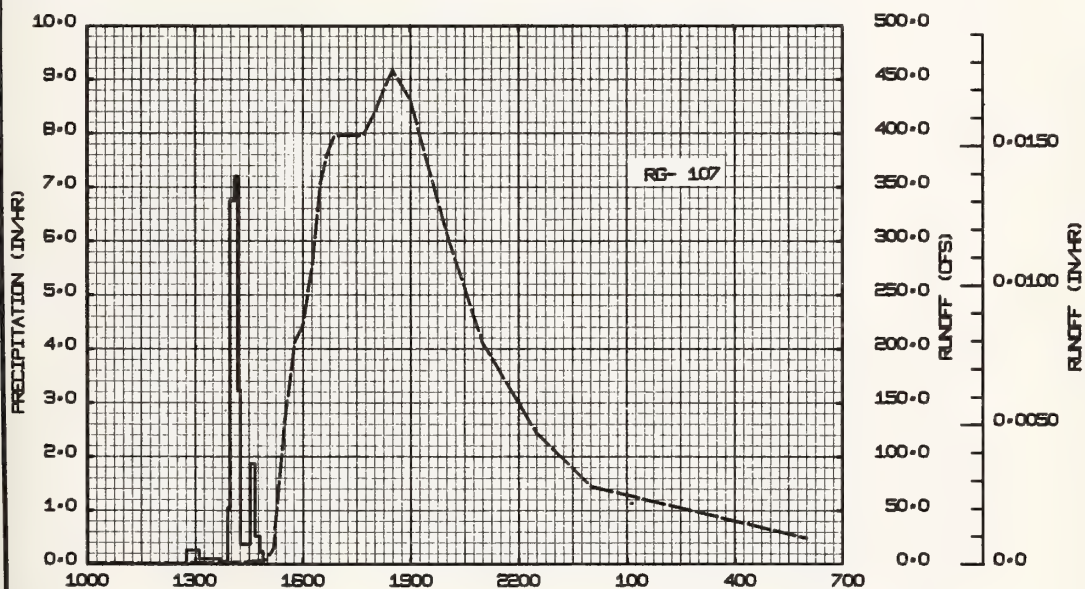


CHICKASHA, OKLAHOMA WATERSHED 131

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				131			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of May 9-10, 1965										
			5- 9	RG	1.07		5- 9	0000	1.1	.0000
				1245	.00	.00		1248	1.0	.0005
				1306	.26	.09		1254	1.3	.0006
				1341	.10	.15		1354	1.4	.0007
				1354	.05	.16		1430	2.3	.0008
				1358	1.05	.23				
				1406	6.75	1.13		1500	4.1	.0009
				1411	7.20	1.73		1512	14.8	.0010
				1416	3.24	2.00		1518	55.5	.0012
				1432	.38	2.10		1530	134.4	.0020
				1440	1.88	2.35		1536	155.4	.0026
				1448	.53	2.42		1548	207.6	.0040
				1453	.24	2.44		1600	221.1	.0057
								1618	281.2	.0087
								1630	353.5	.0112
								1642	381.0	.0141
								1654	398.1	.0172
								1712	398.1	.0218
								1742	398.1	.0296
								1800	418.7	.0344
								1830	458.7	.0429
								1900	430.7	.0515
								2000	307.4	.0658
								2100	205.7	.0758
								2230	121.8	.0853
								2400	72.4	.0910
							5-10	0600	24.3	.1023

Watershed conditions: The land use of this 40.1 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.11-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00003865. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.11-2, THIS PUBLICATION.



MAY 9-10, 1965

CHICKASHA, OKLAHOMA WATERSHED 131

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA AREA — 33,300 ACRES		WATERSHED 411 AT CHICKASHA (52.0 SQ. MILES) 1/					
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P 2/ Q	1.09 .001	.76 .001	1.12 .002	1.93 .007	3.38 .021	2.95 .028	.59 .023	6.54 .333	2.88 .019	1.53 .001	.06 .000	1.10 .001	23.93 .437
STA AVG P 3/ Q	.64 .005	1.09 .008	1.21 .010	1.81 .042	3.41 .041	3.70 .048	1.74 .020	3.08 .113	3.56 .043	1.28 .001	2.84 .061	.99 .012	25.35 .404
MEAN P 4/ 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-28	.0598	8-28	.0532	8-28	.0962	8-28	.204	8-28	.274	8-28	.302	8-28	.316	8-27	.318

MAXIMUMS FOR PERIOD OF RECORD 5/																
19 62 TO 19 65	8-28 1965	.0598	8-28 1965	.0532	8-28 1965	.0962	8-28 1965	.204	8-28 1965	.274	8-28 1965	.302	8-28 1965	.316	8-27 1965	.318

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.12-1. For maps, see foregoing reference, Geologic map, P. 69.7-9 and Topography map, P. 69.12-4. For revised Composite map, see P. 69.7-21. 1/Drainage area changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/Precipitation data obtained from a Thiessen weighted average of 13 gages on the watershed. 3/Precipitation records began Oct. 1961; runoff records began Sept. 1962. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Sept. 1962.

MISCELLANEOUS DATA													
RUNOFF PEAK DATA: YEAR (1965): Maximum — Aug. 28, 2,008 cfs (19.45 ft). Minimum — no flow, Jan. 3. PERIOD OF RECORD: Maximum — Aug. 28, 1965, 2,008 cfs (19.45 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 400 cfs) 1965 — Aug. 28, 2,008 cfs (19.45 ft).													
DAILY TEMPERATURE: See Page 69.7-3.													

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 411 AT CHICKASHA						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.28	.00	.00	.00	.00	.63	.00	.00	.00	.00	.00	.02
2	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.20	.00	.00	.00	.00	.09	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
5	.00	.00	.00	.29	.00	.18	.05	.00	.00	.00	.02	.00
6	.00	.00	.00	.00	.00	.00	.00	2.35	.00	.00	.00	.00
7	.00	.08	.00	.01	.00	.00	.00	.07	.00	.00	.00	.00
8	.00	.27	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
9	.24	.32	.00	.00	.98	.00	.03	.00	.00	.00	.00	.00
10	.00	.00	.00	.01	.21	.00	.00	.02	.00	.00	.00	.17
11	.00	.01	.98	.00	.00	.07	.00	.00	.00	.00	.00	.01
12	.00	.00	.06	.00	.00	.40	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.01	.57	.49	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.17	.02	.00	.00	.01	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.03	.00	.29	.00	.03	.00	.00
16	.00	.00	.01	.00	.00	.00	.00	.62	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.71	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.12	.49	.00	.05
19	.00	.00	.00	.00	.02	.00	.00	.22	1.22	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.09	.03	.00	.04	.00
21	.43	.00	.00	.00	.00	.63	.00	.00	.71	.00	.00	.00
22	.12	.00	.00	.00	.00	.19	.00	.00	.00	.00	.00	.00
23	.02	.03	.00	.00	.00	.00	.00	.09	.00	.00	.00	.15
24	.00	.00	.00	.17	.24	.00	.03	.00	.00	.00	.00	.67
25	.00	.00	.07	.00	.00	.17	.19	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	.73	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.01	.00	.00	.28	.00	.00	.00	.00
28	.00	.05	.00	.00	.60	.00	.29	2.42	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.00	-----	.00	.03	-----	.00	-----	.02
TOTAL	1.09	.76	1.12	1.93	3.38	2.95	.59	6.54	2.88	1.53	.06	1.10
STA AV	.64	1.09	1.21	1.81	3.41	3.70	1.74	3.08	3.56	1.28	2.84	.99

NOTES:

YEARLY PRECIPITATION 23.93 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 13 GAGES ON THE WATERSHED.

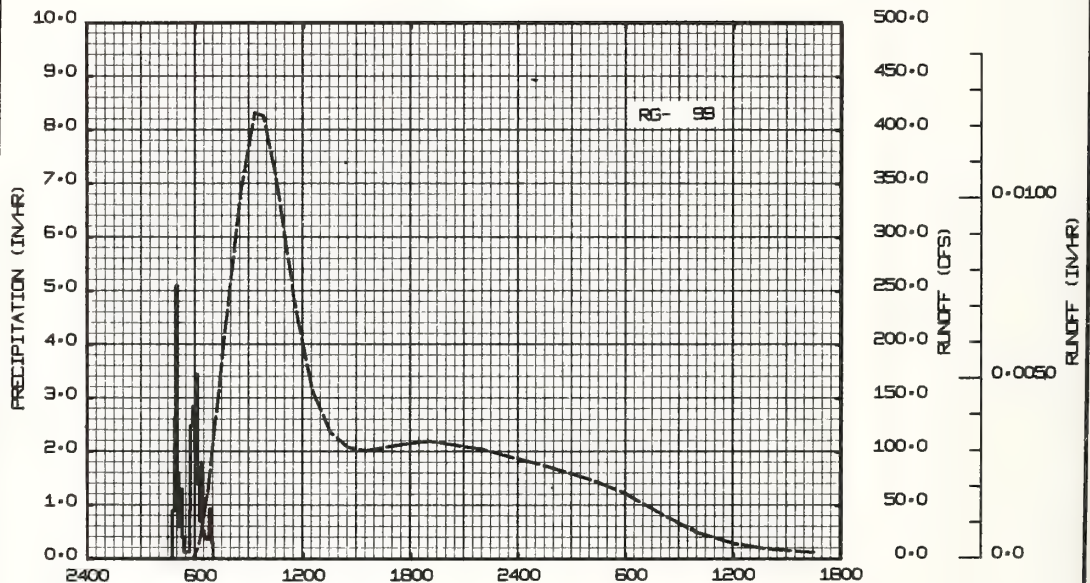
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 411 AT CHICKASHA						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.1	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
2	.1	.0	.0	.0	.0	4.7	.2	.0	.0	.0	.0	.0
3	.0	.0	.0	.2	.0	3.4	.3	.0	.0	.0	.0	.0
4	.0	.0	.0	.0	.0	3.5	.1	.0	.0	.0	.0	.0
5	.0	.0	.0	.3	.0	2.8	7.9	.0	.0	.0	.0	.0
6	.0	.0	.0	.0	.0	.0	11	* 14	.0	.0	.0	.0
7	.0	.0	.0	.0	.0	.0	3.9	* 15	.0	.0	.0	.0
8	.0	.3	.0	.0	.0	.0	3.7	2.5	.0	.0	.0	.0
9	.1	.6	.0	.0	1.9	.0	5.5	.0	.0	.0	.0	.0
10	.3	.1	.0	.0	11	.0	.0	.0	.0	.0	.0	.0
11	.0	.2	.9	.0	3.2	.0	.0	.0	.0	.0	.0	.0
12	.0	.0	.3	.0	2.6	.5	.0	.0	.0	.0	.0	.0
13	.0	.0	1.2	.0	1.9	5.0	.0	.0	.0	.0	.0	.0
14	.0	.0	.2	2.6	2.6	2.7	.0	.0	.0	.0	.0	.0
15	.0	.0	.0	6.3	.9	3.2	.0	.0	.0	.0	.0	.0
16	.0	.0	.0	.8	.0	.0	.0	* 1.2	.0	.0	.0	.0
17	.0	.0	.0	.2	.0	.0	.0	* .2	.0	.0	.0	.0
18	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	.0	.0
19	.0	.0	.0	.0	.0	.0	.0	.6	4.1	.0	.0	.0
20	.0	.0	.0	.0	.0	.0	.0	.0	1.6	.0	.0	.0
21	.6	.0	.0	.0	.0	2.9	.0	.0	22	.0	.0	.0
22	.3	.0	.0	.0	.0	5.4	.0	.0	.0	.0	.0	.0
23	.0	.0	.0	.0	.0	2.7	.0	.0	.0	.0	.0	.0
24	.0	.0	.0	.0	.0	1.8	.0	.0	.0	.0	.0	1.1
25	.0	.0	.0	.0	.0	1.1	.0	.0	.0	.0	.0	.0
26	.0	.0	.0	.0	3.0	.7	.0	.0	.0	.0	.0	.0
27	.0	.0	.0	.0	.0	.0	.0	1.1	.0	.0	.0	.0
28	.0	.0	.0	.0	3.1	.0	.0	* 4.9	.0	.0	.0	.0
29	.0	-----	.0	.0	.0	.0	.0	23	.0	.0	.0	.0
30	.0	-----	.0	.0	.0	.0	.0	* 1.9	.0	.0	.0	.0
31	.0	-----	.0	-----	.0	-----	.0	.0	-----	.0	-----	.0
MEAN	.0	.0	.1	.3	1.0	1.4	1.1	15	.9	.0	.0	.0
INCHES	.001	.001	.002	.007	.021	.028	.023	.333	.019	.001	.000	.001

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0007148. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 2.775. YEARLY MEAN DISCHARGE, 1.7 CFS. YEARLY DISCHARGE, .437 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.



1963			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				411			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
			Event of June 23-24, 1963											
			6-23	RG	99									
				0445	.00	.00	6-23	0551	.0	.0000				
				0451	.90	.09		0557	1.0	.0001				
				0456	2.64	.31		0615	13.3	.0002				
				0500	5.10	.65		0645	68.0	.0008				
				0506	1.60	.81		0730	188.3	.0037				
Watershed conditions: The land use of this 52 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.12-1				0510	.60	.85		0830	339.3	.0116				
				0516	1.30	.98		0918	416.3	.0207				
				0522	.40	1.02		0948	413.6	.0269				
				0542	.12	1.06		1030	353.0	.0350				
				0544	.90	1.09		1130	241.1	.0439				
				0551	2.49	1.38		1230	158.1	.0499				
				0559	2.85	1.76		1330	118.9	.0540				
				0604	2.04	1.93		1430	104.4	.0574				
				0608	3.45	2.16		1530	101.5	.0605				
				0614	1.40	2.30		1700	106.2	.0652				
				0620	.70	2.37		1900	110.3	.0717				
				0624	1.80	2.49		2200	102.8	.0813				
				0631	.51	2.55	6-24	0130	87.3	.0912				
				0637	.40	2.59		0400	75.0	.0973				
				0647	.36	2.65		0600	61.6	.1014				
				0656	.93	2.79		0800	42.4	.1046				
				0700	.30	2.81		1000	25.2	.1067				
								1200	14.8	.1079				
								1400	9.4	.1087				
								1630	6.4	.1093				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002978. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.12-2.



JUNE 23-24, 1963

CHICKASHA, OKLAHOMA WATERSHED 411

MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 511 NEAR TABLER AREA — 38,020 ACRES (59.4 SQ. MILES) 1/							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P 2/ Q	1.26 .046	1.09 .036	1.16 .052	2.67 .189	2.72 .049	2.59 .024	1.37 .015	6.65 .732	2.42 .047	1.14 .010	.06 .018	1.22 .044	24.35 1.262	
STA AVG P 3/ Q	.73 .057	1.08 .056	1.50 .082	2.28 .244	2.99 .103	3.55 .087	1.77 .026	3.54 .271	2.96 .029	1.31 .012	2.78 .146	1.04 .065	25.53 1.178	
MEAN 65 YR P 4/ Q	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-8	.0815	8-8	.0811	8-8	.1610	8-8	.432	8-7	.544	8-7	.572	8-7	.589	8-7	.595

MAXIMUMS FOR PERIOD OF RECORD 5/																
19 62 TO 1965	8-8 1965	.0815	8-8 1965	.0811	8-8 1965	.1610	8-8 1965	.432	8-7 1965	.544	8-7 1965	.572	8-7 1965	.589	8-7 1965	.595

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.13-1. For Geologic map, see foregoing reference, P. 69.7-9. Composite map (revised) P. 69.7-21 and Topography map (revised), P. 69.13-11. 1/Drainage area has been changed from previous years as a result of recomputing it from newer 15-minute quadrangle maps. 2/Precipitation data obtained from a Thiessen weighted average of 15 gages on the watershed. 3/Precipitation records began Oct. 1961; runoff records began Oct. 1962. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Oct. 1962.

MISCELLANEOUS DATA														
<p><b>RUNOFF PEAK DATA:</b> YEAR (1965): Maximum — Aug. 8, 3,122 cfs (16.41 ft). Minimum — July 4, no flow. PERIOD OF RECORD: Maximum — Aug. 8, 1965, 3,122 cfs (16.41 ft). Minimum — No flow. PEAK DISCHARGES: (Above base flow of 600 cfs) 1965 — Apr. 15, 992 cfs (8.78 ft); Aug. 8, 3,122 cfs (16.41 ft); Aug. 28, 816 cfs (7.93 ft).</p> <p><b>DAILY TEMPERATURE:</b> See Page 69.7-3.</p>														

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 511 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.25	.00	.00	.00	.00	.50	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.11	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.14	.00	.00	.00	.00	.09	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
5	.00	.00	.00	.62	.00	.14	.03	.00	.00	.00	.04	.00
6	.00	.00	.00	.00	.00	.00	.00	1.29	.00	.00	.00	.00
7	.00	.10	.00	.07	.00	.00	.00	2.84	.00	.00	.00	.00
8	.02	.32	.00	.06	.02	.00	.01	.00	.00	.00	.00	.00
9	.24	.24	.00	.00	.45	.00	.72	.00	.00	.00	.00	.00
10	.00	.00	.00	.07	.10	.00	.00	.05	.00	.00	.00	.12
11	.00	.01	.96	.01	.00	.00	.00	.00	.00	.01	.00	.03
12	.00	.00	.07	.00	.00	.20	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.65	.46	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.58	.01	.00	.00	.01	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.28	.00	.11	.00	.00
16	.00	.00	.05	.00	.00	.00	.00	.05	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.51	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.15	1.02	.00	.02
19	.00	.00	.00	.00	.01	.00	.00	.33	1.03	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.08	.02	.00	.02	.00
21	.60	.00	.00	.00	.00	.73	.00	.00	.58	.00	.00	.00
22	.15	.00	.00	.00	.00	.15	.00	.11	.00	.00	.00	.00
23	.00	.04	.00	.00	.00	.00	.00	.04	.00	.00	.00	.15
24	.00	.00	.00	.07	.02	.06	.01	.00	.01	.00	.00	.86
25	.00	.00	.08	.01	.00	.24	.13	.00	.00	.00	.00	.00
26	.00	.00	.00	.04	.54	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.22	.00	.21	.28	.00	.00	.00	.00
28	.00	.38	.00	.00	.63	.00	.25	1.19	.00	.00	.00	.00
29	.00	-----	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
31	.00	-----	.00	-----	.07	-----	.00	.10	-----	.00	-----	.04
TOTAL	1.26	1.09	1.16	2.67	2.72	2.59	1.37	6.65	2.42	1.14	.06	1.22
STAAV	.72	1.08	1.50	2.28	2.99	3.55	1.77	3.54	2.96	1.31	2.78	1.04

NOTES:

YEARLY PRECIPITATION 24.35 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 15 GAGES ON THE WATERSHED.

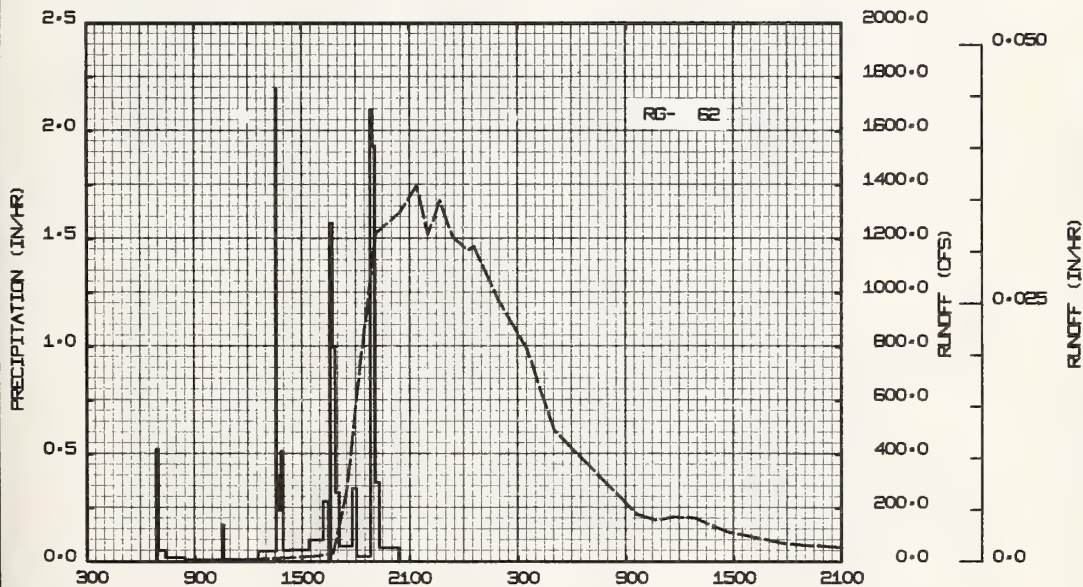
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 511 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	1.9	1.9	9.9	2.1	1.9	1.1	.1	.0	1.3	.3	.4	1.1
2	4.8	1.9	3.5	2.2	1.8	8.1	.1	.0	.9	.3	.5	1.2
3	2.2	2.0	1.9	2.6	5.0	3.6	.1	.0	.9	.3	.6	1.2
4	1.9	2.1	1.9	2.8	5.3	1.7	.0	.0	1.1	.4	.6	1.2
5	1.9	2.1	2.0	2.4	1.6	1.6	.0	.0	.7	.4	.6	1.3
6	1.9	2.1	1.9	1.4	1.6	1.6	.0	.4	.5	.4	.8	1.3
7	2.0	2.4	1.9	3.5	1.4	1.3	.0	* 14	.5	.5	1.1	1.2
8	2.1	2.6	1.9	3.0	1.5	1.3	.0	* 909	.4	.4	1.2	1.4
9	2.1	3.8	2.0	2.8	1.6	1.3	.0	23	.4	.4	.9	1.3
10	2.2	3.6	2.0	2.2	2.9	1.2	22	9.3	.3	.3	.7	1.4
11	2.4	2.5	2.4	3.5	2.4	1.2	1.5	5.1	.3	.1	.7	2.0
12	2.6	2.0	8.8	1.9	1.4	1.1	.4	4.4	.3	.1	1.2	1.9
13	2.6	2.0	3.8	1.9	1.5	1.2	.1	3.4	.2	.1	.6	1.6
14	2.5	2.0	3.0	* 30	8.5	1.2	.0	2.7	.2	.1	.7	1.6
15	2.1	2.0	2.7	155	3.4	.8	.0	2.5	.1	.2	.8	1.5
16	2.2	1.9	2.5	9.6	1.7	.9	.0	2.4	.1	.3	1.0	1.5
17	1.7	1.6	2.5	5.5	1.6	.8	.0	2.2	.2	.3	.8	1.5
18	1.8	1.7	2.4	4.4	1.5	.7	.0	1.6	.5	2.0	.7	1.5
19	1.8	1.8	1.9	3.5	1.1	.7	.0	1.2	4.6	2.9	.7	1.5
20	1.8	1.8	1.8	3.0	1.2	.5	.0	1.4	7.6	1.1	1.1	1.5
21	2.2	1.8	2.0	2.7	1.2	.5	.0	1.9	4.8	.6	1.1	1.5
22	5.8	1.6	2.1	2.6	1.1	2.1	.0	1.1	3.8	.5	1.1	1.4
23	4.1	1.6	2.2	2.4	1.2	1.6	.0	1.3	1.7	.4	1.3	1.5
24	2.7	1.5	2.0	2.6	1.2	.9	.0	.9	1.1	.4	1.2	1.9
25	2.4	1.6	2.1	2.6	1.0	.6	.0	.8	.8	.4	1.4	6.0
26	2.1	1.6	2.2	2.6	1.8	.5	.0	.6	.7	.4	1.6	2.6
27	1.9	1.6	2.2	2.6	1.7	.4	.0	.4	.7	.4	1.4	2.1
28	2.1	1.7	2.5	2.4	15	.3	.0	* 168	.5	.5	1.1	1.8
29	2.2	-----	2.2	2.2	3.2	.2	.0	4.6	.6	.5	1.4	1.8
30	2.1	-----	1.9	2.2	1.3	.1	.0	* 1.9	* .4	.4	1.1	1.8
31	2.2	-----	1.9	-----	1.1	-----	.0	4.7	-----	.4	-----	1.8
MEAN	2.4	2.0	2.7	10	2.5	1.3	.8	38	2.5	.5	.9	2.3
INCHES	.046	.036	.052	.189	.049	.024	.015	.732	.047	.010	.018	.044

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0006260. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 3.168. YEARLY MEAN DISCHARGE, 7.7 CFS. YEARLY DISCHARGE, 1.262 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1963			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				511
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of April 26-27, 1963											
			4-26	RG	62		4-26				
				0650	.00	.00		1230	9.5	.0000	
				0658	.53	.07		1330	13.0	.0003	
				0721	.05	.09		1445	17.5	.0008	
				0825	.02	.11		1600	22.1	.0015	
				1031	.01	.13		1645	31.7	.0021	
				1038	.17	.15		1730	265.4	.0051	
				1233	.01	.17		1815	726.8	.0148	
				1333	.05	.22		1909	1221.9	.0377	
				1336	2.20	.33		2033	1303.6	.0839	
				1345	.40	.39		2124	1397.5	.1139	
				1350	.24	.41		2203	1217.7	.1361	
				1357	.51	.47		2242	1343.4	.1579	
				1420	.05	.49		2324	1212.7	.1813	
				1524	.06	.55	4-27	0012	1158.8	.2061	
				1611	.10	.63		0036	1173.1	.2183	
				1628	.28	.71		0154	978.8	.2548	
				1635	.00	.71		0330	792.6	.2918	
				1643	1.58	.92		0500	492.4	.3170	
				1652	1.00	1.07		0730	320.5	.3436	
				1705	.32	1.14		0936	178.4	.3573	
				1747	.07	1.19		1042	155.3	.3621	
				1801	.34	1.27		1142	168.5	.3664	
				1848	.03	1.29		1251	163.6	.3714	
				1856	2.10	1.57		1439	111.9	.3779	
				1905	1.93	1.86		1754	67.8	.3856	
				1918	.37	1.94		2200	48.7	.3919	
				2023	.07	2.01					

Watershed conditions: The land use of this 59.4 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.13-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.13-2.



APRIL 26-27, 1963

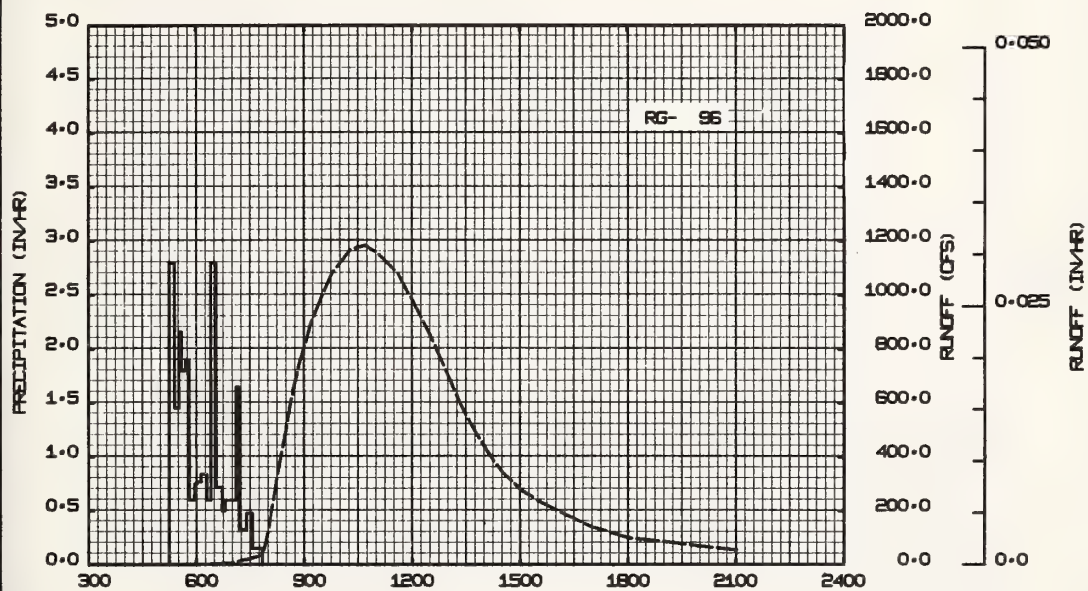
CHICKASHA, OKLAHOMA WATERSHED 511



1963			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				511	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
				Event of June 23, 1963								
			6-23	RG	96		6-23	0000	.5	.0000		
				0515	.00	.00		0518	.5	.0001		
				0524	2.80	.42		0600	1.5	.0001		
				0531	1.46	.59		0700	6.8	.0003		
				0536	2.16	.77		0730	21.1	.0005		
				0542	1.80	.95						
Watershed conditions: The land use of this 59.4 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.13-1.				0548	1.90	1.14		0748	33.0	.0008		
				0557	.60	1.23		0754	58.2	.0010		
				0601	.75	1.28		0800	123.6	.0012		
				0608	.77	1.37		0806	198.4	.0017		
				0618	.84	1.51		0812	275.2	.0024		
				0624	.60	1.57		0818	353.7	.0033		
				0633	2.80	1.99		0824	429.4	.0043		
				0643	.72	2.11		0830	508.8	.0056		
				0649	.50	2.16		0836	574.9	.0071		
				0707	.60	2.34		0842	645.7	.0087		
				0711	1.65	2.45		0848	705.0	.0105		
				0724	.32	2.52		0900	807.9	.0145		
				0734	.48	2.60		0912	893.9	.0190		
				0750	.15	2.64		0930	1001.8	.0265		
								0948	1084.4	.0347		
								1018	1169.9	.0494		
								1042	1183.8	.0618		
								1100	1159.3	.0710		
								1136	1082.1	.0886		
								1200	980.6	.0994		
								1230	851.5	.1114		
								1248	765.3	.1177		
								1306	676.0	.1234		
								1318	609.7	.1268		
								1330	555.6	.1299		
								1348	486.2	.1341		
								1406	421.6	.1377		
								1430	343.5	.1417		
								1500	279.9	.1458		
								1542	223.4	.1505		
								1700	140.4	.1567		
								1800	100.6	.1599		
								2100	54.2	.1660		

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.13-2.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.13-2.

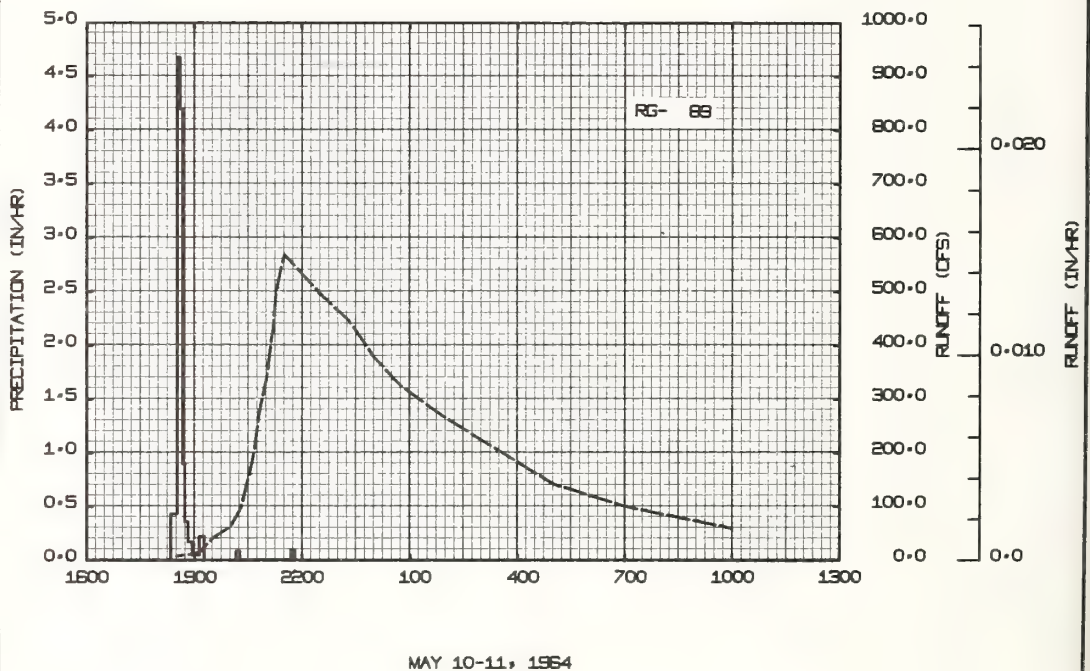


JUNE 23, 1963

CHICKASHA, OKLAHOMA WATERSHED 511

1964			SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA			511	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
				Event of May 10-11, 1964						
			5-10	RG	.89					
				1820	.00	.00	5-10	1830	7.9	.0000
				1820	.00	.00		1900	12.3	.0001
				1831	.44	.08		1912	17.3	.0003
				1836	4.68	.47		1930	41.5	.0005
				1840	4.20	.75		2000	63.4	.0013
Watershed conditions: The land use of this 59.4 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.13-1										
				1844	.90	.81		2018	97.1	.0020
				1849	.36	.84		2030	153.6	.0027
				1856	.17	.86		2042	212.1	.0037
				1908	.05	.87		2048	268.3	.0043
				1916	.23	.90		2100	336.4	.0060
				2009	.00	.90		2112	432.5	.0080
				2016	.09	.91		2118	505.3	.0093
				2141	.01	.92		2130	568.8	.0121
				2147	.10	.93		2136	564.2	.0137
								2230	497.0	.0262
								2318	447.2	.0361
								2400	377.9	.0437
							5-11	0048	322.6	.0510
								0200	265.2	.0603
								0300	224.1	.0667
								0500	142.0	.0763
								0700	100.6	.0827
								1000	59.4	.0890

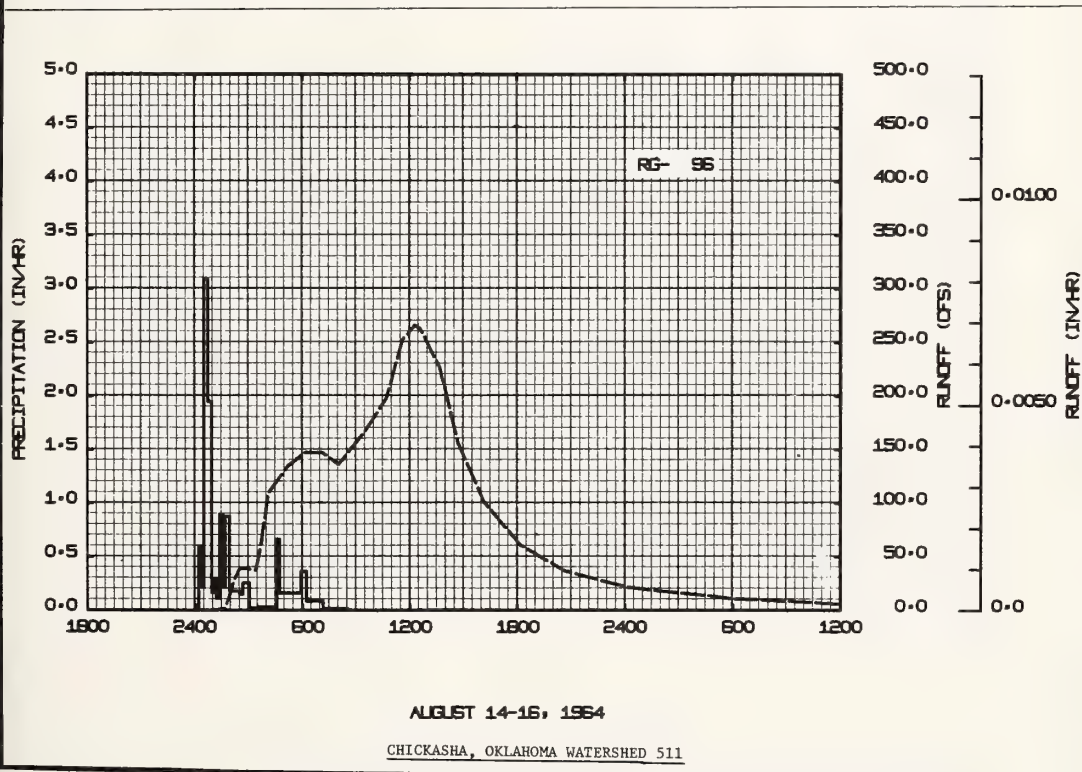
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.13-2. FOR ISOHYETAL MAP SEE PAGE 69.19-6.



CHICKASHA, OKLAHOMA WATERSHED 511

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				511			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of August 15-16, 1964										
			8-15	RG	96		8-15			
				0012	.00	.00		0042	.0	.0000
				0019	.60	.07		0112	.0	.0001
				0030	.22	.11		0142	1.6	.0001
				0043	3.09	.78		0154	11.7	.0002
				0055	1.95	1.17		0212	29.1	.0004
Watershed conditions: The land use of this 59.4 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.13-1.										
				0106	.16	1.20		0230	39.2	.0007
				0112	.30	1.23		0254	39.1	.0012
				0123	.11	1.25		0324	37.5	.0017
				0133	.90	1.40		0342	62.1	.0022
				0141	.23	1.43		0406	109.1	.0031
				0156	.88	1.65		0512	135.2	.0067
				0229	.18	1.75		0612	147.7	.0104
				0241	.15	1.78		0706	147.4	.0139
				0302	.26	1.87		0800	136.3	.0173
				0330	.02	1.88		0936	169.6	.0237
				0433	.03	1.91		1042	197.8	.0291
				0442	.67	2.01		1136	252.7	.0344
				0554	.16	2.20		1218	265.8	.0392
				0612	.37	2.31		1236	263.2	.0413
				0709	.08	2.39		1342	226.3	.0484
				0832	.01	2.41		1442	157.3	.0534
								1612	100.5	.0585
								1812	60.9	.0628
								2042	36.7	.0660
								2400	21.7	.0686
							8-16	0600	10.8	.0712

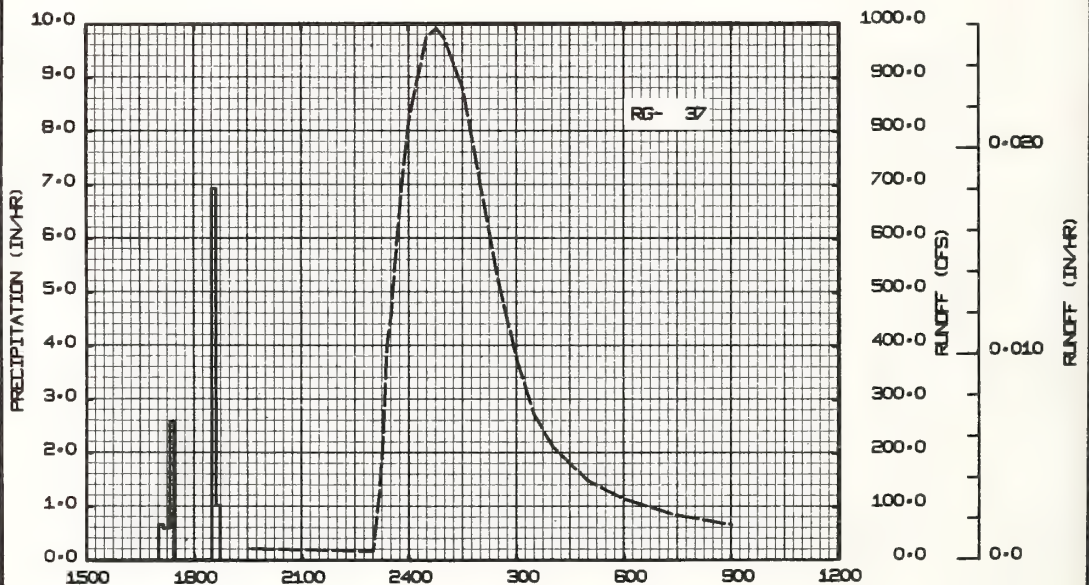
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.13-2.





1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				511	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
				Event of April 14-15, 1965								
			4-14	RG	37		4-14	1930	22.5	.0000		
				1700	.00	.00		2300	16.7	.0018		
				1708	.68	.09		2312	128.9	.0022		
				1719	.60	.20		2318	226.6	.0027		
				1725	2.60	.46		2324	392.9	.0036		
				1829	.01	.47						
Watershed conditions: The land use of this 59.4 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.13-1.				1836	6.94	1.28		2330	456.9	.0047		
				1843	1.03	1.40		2348	688.1	.0093		
								2400	818.5	.0133		
							4-15	0030	976.9	.0250		
								0048	991.9	.0328		
								0100	972.7	.0379		
								0130	883.0	.0501		
								0200	701.1	.0605		
								0230	521.5	.0685		
								0300	378.2	.0744		
								0330	272.6	.0787		
								0400	214.3	.0819		
								0500	148.8	.0867		
								0600	114.7	.0902		
								0730	83.8	.0941		

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.13-2, THIS PUBLICATION.

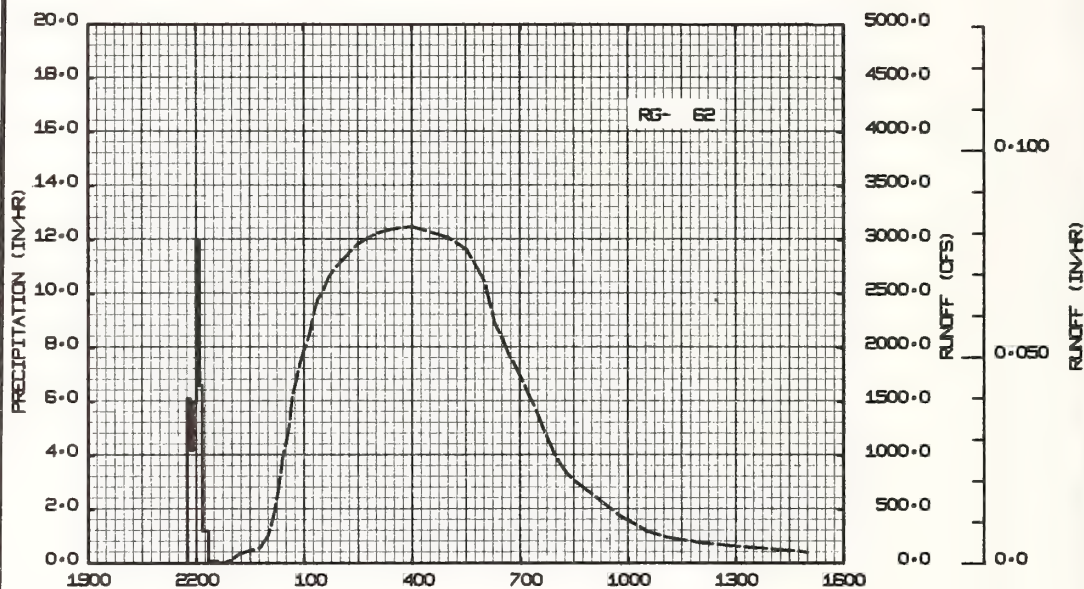


APRIL 14-15, 1965

CHICKASHA, OKLAHOMA WATERSHED 511

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				511			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of August 7-8, 1965							
			8- 7	RG	62		8- 7	2224	4.4	.0000
				2145	.00	.00		2248	6.6	.0001
				2150	6.12	.51		2300	30.1	.0002
				2155	4.20	.86		2312	87.4	.0006
				2200	6.00	1.36		2330	120.0	.0014
				2205	12.00	2.36				
				2210	6.60	2.91		2342	132.3	.0021
				2220	1.20	3.11		2348	147.6	.0025
				2235	.08	3.13		2400	262.3	.0037
							8- 8	0006	358.1	.0046
								0012	505.0	.0057
								0018	671.5	.0073
								0024	943.1	.0095
								0030	1130.5	.0122
								0036	1269.3	.0154
								0042	1560.6	.0192
								0048	1701.8	.0235
								0054	1842.5	.0281
								0100	1973.4	.0332
								0106	2041.6	.0385
								0112	2157.4	.0440
								0118	2329.9	.0499
								0124	2451.9	.0562
								0130	2498.2	.0627
								0142	2652.2	.0762
								0200	2787.1	.0975
								0230	2961.1	.1350
								0300	3058.1	.1743
								0330	3102.0	.2145
								0400	3122.4	.2552
								0430	3071.6	.2956
								0500	3017.8	.3354
								0530	2911.4	.3741
								0600	2620.5	.4102
								0618	2231.1	.4292
								0630	2079.0	.4405
								0642	1931.2	.4510
								0648	1872.8	.4561
								0700	1731.2	.4655
								0712	1601.9	.4743
								0730	1367.8	.4859
								0742	1206.0	.4927
								0748	1139.6	.4958
								0800	974.8	.5014
								0812	883.0	.5063
								0818	834.4	.5085
								0830	763.7	.5128
								0900	640.7	.5220
								0918	563.5	.5267
								0930	511.6	.5296
								0948	435.2	.5333
								1000	397.4	.5356
								1030	299.0	.5402
								1100	245.7	.5438
								1200	191.0	.5495
								1254	160.1	.5537

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00002608. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.13-2, THIS PUBLICATION. FOR ISOHYETAL MAP SEE PAGE 69.19-7.



AUGUST 7- 8, 1965

CHICKASHA, OKLAHOMA WATERSHED 511

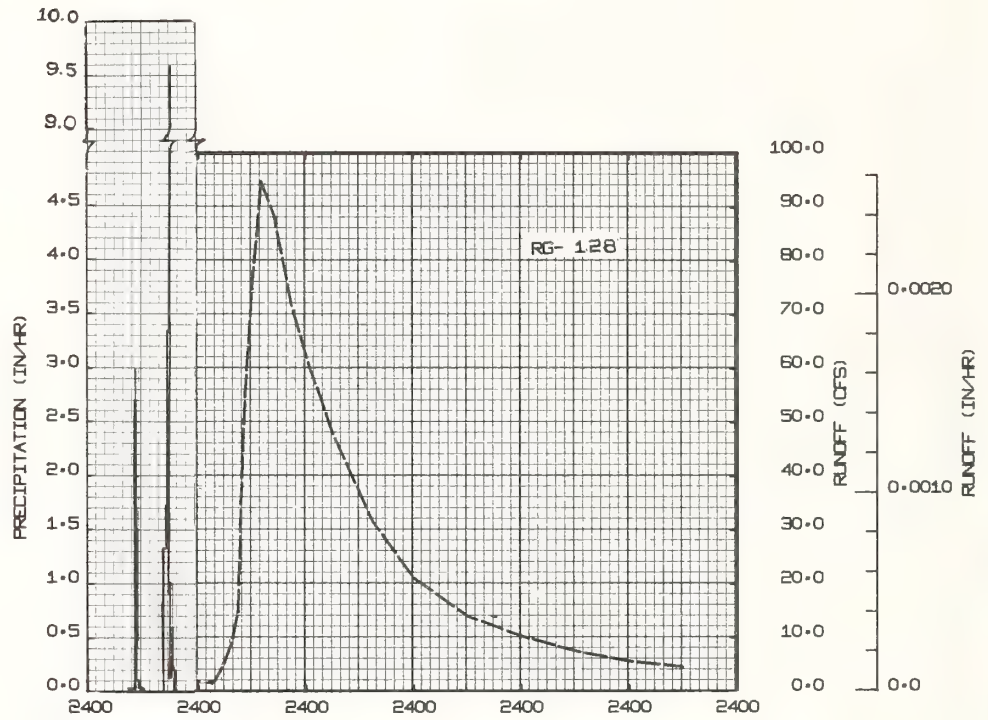


BASED ON 1966 U.S. GEOLOGICAL SURVEY MAP OF CHICKASHA, OKLAHOMA,  
1966 U.S. GEOLOGICAL SURVEY MAP OF CHICKASHA NE, OKLAHOMA, 1966 U.S.  
GEOLOGICAL SURVEY MAP OF TABLER, OKLAHOMA, AND 1966 U.S. GEOLOGICAL  
SURVEY MAP OF TUTTLE, OKLAHOMA



MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 110 NEAR ANADARKO AREA — 25,020 ACRES (39.1 SQ. MILES) 1/									
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P 2/ Q	.76 .000	.78 .011	1.12 .027	2.52 .078	3.01 .013	4.00 .005	.37 .000	3.64 .003	2.36 .000	1.51 .000	.08 .000	.80 .000	20.95 .137		
STA AVG	P 3/ Q	.52 .000	1.04 .006	1.20 .014	2.10 .045	3.86 .059	3.96 .005	1.54 .000	2.44 .001	3.61 .000	1.33 .000	2.59 .007	.84 .000	25.03 .137		
MEAN 65 YR	P 4/ Q	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16		
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-28	.0014	8-28	.0012	8-28	.0019	8-28	.003	8-28	.003	8-28	.003	8-28	.003	4-5	.057
MAXIMUMS FOR PERIOD OF RECORD 5/																
19 63 TO 19 65	5-11 1964	.0037	5-11 1964	.0037	5-11 1964	.0074	5-11 1964	.021	5-11 1964	.038	5-11 1964	.061	5-11 1964	.087	5-11 1964	.114
Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, P. 69.14-1. For Geologic map, P. 69.7-9 and Topography map, P. 69.10-4, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070. For revised Composite map, see P. 69.7-21. 1/Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/Precipitation data obtained from a Thiessen weighted average of 10 gages on the watershed. 3/Precipitation records began Oct. 1961; runoff records began Apr. 1963. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Apr. 1963.																
MISCELLANEOUS DATA																
RUNOFF PEAK DATA: YEAR (1965): Maximum — Aug. 28, 36 cfs (7.75 ft). Minimum — no flow. PERIOD OF RECORD: Maximum — May 11, 1964, 95 cfs (8.18 ft). PEAK DISCHARGES: (Above base flow of 100 cfs) 1965 — None.																
DAILY TEMPERATURE: See Page 69.7-3.																
1965 DAILY PRECIPITATION (inches)							CHICKASHA, OKLAHOMA WATERSHED 110 NEAR ANADARKO									
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
1	.04	.00	.00	.00	.00	1.03	.00	.00	.00	.00	.00	.04				
2	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00	.00				
3	.00	.00	.00	.05	.00	.00	.00	.00	.04	.00	.00	.00				
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00				
5	.00	.00	.00	1.19	.00	.10	.01	.00	.00	.00	.00	.00				
6	.00	.00	.00	.00	.00	.00	.00	1.32	.00	.00	.00	.00				
7	.00	.07	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00				
8	.00	.19	.00	.00	.02	.00	.00	.00	.00	.00	.05	.00				
9	.19	.41	.00	.00	.92	.00	.09	.00	.00	.00	.00	.00				
10	.00	.00	.00	.00	.21	.00	.00	.06	.00	.00	.00	.14				
11	.00	.03	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.03				
12	.00	.00	.05	.00	.00	.48	.00	.00	.00	.00	.00	.00				
13	.00	.00	.00	.00	.55	.77	.00	.00	.00	.00	.00	.00				
14	.00	.00	.00	.86	.01	.00	.00	.52	.00	.00	.00	.00				
15	.00	.00	.00	.00	.00	.09	.00	.08	.00	.02	.00	.00				
16	.00	.00	.04	.00	.00	.00	.00	.10	.00	.00	.00	.00				
17	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00				
18	.00	.00	.00	.00	.00	.00	.00	.00	.06	1.48	.00	.06				
19	.00	.00	.00	.00	.02	.00	.00	.00	1.50	.00	.00	.00				
20	.00	.00	.00	.00	.00	.00	.00	.05	.14	.00	.03	.00				
21	.47	.00	.00	.00	.00	.55	.00	.00	.50	.00	.00	.00				
22	.06	.00	.00	.00	.00	.18	.00	.00	.02	.00	.00	.00				
23	.00	.01	.00	.00	.00	.00	.00	.06	.00	.00	.00	.08				
24	.00	.00	.00	.22	.13	.00	.00	.00	.02	.00	.00	.42				
25	.00	.00	.03	.00	.00	.64	.07	.00	.00	.00	.00	.00				
26	.00	.00	.00	.14	.47	.00	.00	.00	.00	.00	.00	.00				
27	.00	.00	.00	.00	.01	.00	.00	.06	.00	.00	.00	.00				
28	.00	.07	.00	.00	.67	.00	.20	1.35	.00	.00	.00	.00				
29	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
31	.00	-----	.00	.00	.00	-----	.00	.02	-----	.00	-----	.03				
TOTAL	.76	.78	1.12	2.52	3.01	4.00	.37	3.64	2.36	1.51	.08	.80				
STA AV	.52	1.04	1.20	2.10	3.86	3.96	1.54	2.44	3.61	1.33	2.59	.84				
NOTES YEARLY PRECIPITATION 20.95 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 10 GAGES ON THE WATERSHED.																





MAY 10-15, 1964

CHICKASHA, OKLAHOMA WATERSHED 110

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 522 NEAR NINNEKAH AREA — 132,990 ACRES (207.8 SQ. MILES) 1/										
YEAR	MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL		
1965	P 2/	1.24	.72	1.05	2.02	3.97	3.56	.66	6.62	3.26	1.75	.04	.81	25.70		
	Q	.127	.075	.080	.161	.154	.198	.012	.218	.076	.047	.044	.055	1.247		
STA AVG	P 3/	.74	1.11	1.22	2.10	3.94	3.55	1.72	2.98	3.80	1.59	2.87	.89	26.51		
	Q	.094	.082	.078	.114	.333	.115	.033	.084	.058	.027	.171	.061	1.250		
MEAN	P 4/	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16		
	65 YR															
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-28	.0194	8-28	.0186	8-28	.0338	8-28	.068	8-28	.111	8-28	.133	8-28	.143	8-28	.220
MAXIMUMS FOR PERIOD OF RECORD 5/																
1963 TO 1965	5-10 1964	.0699	5-10 1964	.0672	5-10 1964	.1310	5-9 1964	.301	5-9 1964	.364	5-9 1964	.410	5-9 1964	.516	5-5 1964	.579
Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, P. 69.15-1. For Topography map, see foregoing reference, P. 69.15-4. For Geologic map, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.7-9. For revised Composite map, see P. 69.7-21. 1/Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/Precipitation data obtained from a Thiessen weighted average of 36 gages on the watershed. 3/Precipitation records began Oct. 1961; runoff records began Apr. 1963. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Apr. 1963.																
MISCELLANEOUS DATA																
RUNOFF PEAK DATA: YEAR (1965): Maximum — Aug. 28, 2,607 cfs (15.86 ft). Minimum — no flow, July 13. PERIOD OF RECORD: Maximum — May 10, 1964, 9,360 cfs (20.62 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 1,500 cfs) 1965 — Aug. 28, 2,607 cfs (15.86 ft). U.S. Geological Survey records available back to Oct. 1, 1951.																
DAILY TEMPERATURE: See Page 69.7-3.																



1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 522 NEAR NINNEKAH						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.33	.00	.00	.00	.00	.67	.00	.00	.00	.00	.00	.07
2	.00	.00	.00	.01	.00	.37	.00	.00	.00	.00	.00	.02
3	.00	.00	.00	.45	.00	.00	.00	.00	.82	.00	.00	.00
4	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02	.00	.00
5	.00	.00	.00	.31	.00	.13	.08	.00	.00	.00	.01	.00
6	.00	.00	.00	.00	.00	.00	.00	1.17	.00	.00	.00	.00
7	.00	.07	.00	.01	.00	.00	.00	.03	.00	.00	.00	.00
8	.00	.30	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00
9	.27	.32	.00	.00	.62	.00	.05	.00	.00	.00	.00	.00
10	.00	.00	.00	.03	.31	.00	.00	.03	.00	.00	.00	.18
11	.00	.00	.89	.05	.00	.01	.00	.00	.00	.01	.00	.02
12	.00	.00	.03	.00	.00	.37	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.01	.65	.58	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.98	.03	.00	.00	.07	.00	.00	.00	.01
15	.00	.00	.00	.00	.00	.65	.00	.30	.02	.00	.00	.00
16	.00	.00	.02	.00	.00	.00	.00	.70	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.67	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.19	1.72	.00	.03
19	.00	.00	.00	.00	.03	.00	.00	.02	1.22	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.55	.03	.00	.03	.00
21	.55	.00	.00	.00	.00	.29	.00	.00	.30	.00	.00	.00
22	.09	.00	.00	.00	.00	.26	.00	.21	.00	.00	.00	.00
23	.00	.02	.00	.00	.00	.00	.00	.02	.00	.00	.00	.22
24	.00	.00	.00	.05	.18	.00	.00	.00	.01	.00	.00	.25
25	.00	.00	.11	.01	.00	.21	.14	.00	.00	.00	.00	.00
26	.00	.00	.00	.09	1.50	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.01	.00	.04	.05	.00	.00	.00	.00
28	.00	.01	.00	.00	.61	.00	.35	2.42	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00		.02		.00	1.04		.00		.01
TOTAL	1.24	.72	1.05	2.02	3.97	3.56	.66	6.62	3.26	1.75	.04	.81
STAAV	.74	1.11	1.22	2.10	3.94	3.55	1.72	2.98	3.80	1.59	2.87	.89

NOTES:

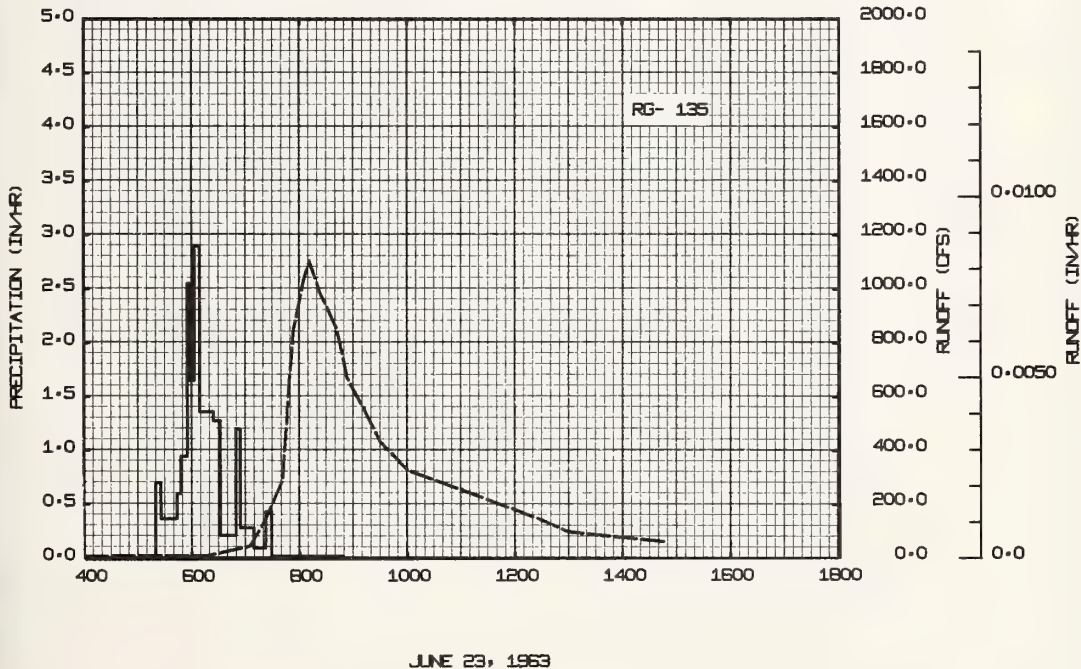
YEARLY PRECIPITATION 25.70 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 36 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 522 NEAR NINNEKAH						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	26	17	10	20	7.5	20	3.0	.1	37	2.5	6.6	7.0
2	37	13	11	20	6.3	169 E	3.0	.1	.1	2.8	7.0	8.5
3	19	19	11	144 E	6.3	20 E	2.1	.1	54	4.1	7.5	9.6
4	17	14	13	23	6.3	16	2.1	.1	77	4.5	7.5	9.0
5	14	16	16	17 E	11	26 E	2.1	.1	10	6.1	8.0	8.5
6	26	17	16	16 E	16	19 E	6.3	61	6.3	6.1	8.5	8.0
7	30	19	11	17	13	8.7 E	4.1	19	5.2	6.6	8.5	8.0
8	33	17	7.5	22	13	6.3	3.0	.5	4.1	6.1	8.5	8.0
9	35	31	6.3	22	94	7.5	3.0	.1	3.0	5.7	8.5	9.0
10	38	31	6.3	35	92	6.3	8.7	.1	.5	4.5	8.5	9.6
11	33	17	10	37	22	5.2	4.1	.1	.1	3.8	8.5	9.0
12	28	14	22	35	14	5.2	2.1	.1	.1	2.8	9.6	11
13	16	14	16	33	16	43	.1	.1	.1	2.8	9.6	9.0
14	14	13	14	131	71	26	.1	.1	.1	3.8	9.0	9.6
15	19	13	17	157	13	316	2.1	.1	.1	4.1	8.5	9.6
16	20	14	14	14	8.7	128	4.1	34	.1	4.1	8.5	9.6
17	20	14	14	14	8.7	37	4.1	8.3	9.3	3.8	8.0	9.6
18	19	13	13	10	13	26	1.4	.1	17	7.6	7.5	10
19	14	10	14	8.7	11	30	.1	.1	69	26	7.5	10
20	14	10	10	8.7	8.7	31	.1	17	35	13	9.0	11
21	19	11	16	10	3.0	31	.1	.1	47	8.0	9.0	10
22	37	8.7	16	10	1.2	38	.1	.1	22	7.0	8.5	9.6
23	28	7.5	16	10	3.0	30	.1	12	5.2	7.0	9.0	10
24	17	6.3	16	10	5.2	17	.1	1.2	4.1	6.1	8.5	14
25	17	26	14	11	19	13	.1	.5	4.1	5.7	9.6	14
26	16	11	16	11	230	14	.1	.5	4.1	5.3	8.5	13
27	17	10	20	16	23	8.7	.1	.1	2.8	5.7	8.0	12
28	23	10	20	14	49	4.1	.5	732	2.8	7.0	7.5	11
29	23		20	13	33	3.0	8.7	57	2.8	6.6	7.0	11
30	22		20	10	23	3.0	2.1	14	2.8	6.1	7.5	10
31	19		19		20		.1	258		6.1		8.5
MEAN	23	15	14	30	28	37	2.2	39	14	8.4	8.3	9.9
INCHES	.127	.075	.080	.161	.154	.198	.012	.218	.076	.047	.044	.055

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0001790. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 11.082. YEARLY MEAN DISCHARGE, 19.0 CFS. YEARLY DISCHARGE, 1.247 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1963 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				522			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
			Event of June 23, 1963							
Watershed conditions: The land use of this 207.8 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.15-1.			6-23	RG	135		6-23			
				0520	.00	.00		0000	5.5	.0000
				0526	.70	.07		0618	7.6	.0003
				0544	.37	.18		0706	43.2	.0005
				0548	.60	.22		0724	147.6	.0008
				0555	.94	.33		0742	288.7	.0013
				0559	2.55	.50		0748	580.0	.0017
				0603	1.65	.61		0754	841.8	.0023
				0609	2.90	.90		0806	1035.3	.0037
				0624	1.36	1.24		0812	1104.6	.0046
				0632	1.28	1.41		0824	984.6	.0062
				0649	.21	1.47		0842	855.8	.0083
				0654	1.20	1.57		0854	670.8	.0095
				0709	.28	1.64		0918	518.8	.0113
				0722	.09	1.66		0930	432.1	.0121
				0729	.43	1.71		1000	327.0	.0135
				0848	.02	1.73		1106	248.2	.0159
								1218	158.4	.0178
								1300	98.1	.0185

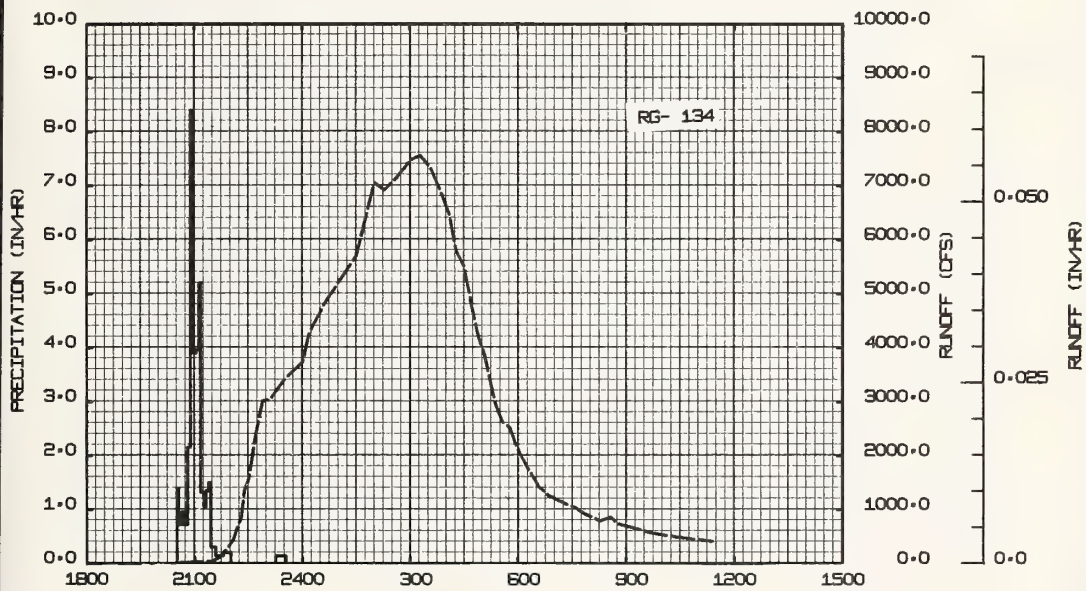
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007458. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1963, USDA MISC. PUB. 1164, P. 69.15-3.



CHICKASHA, OKLAHOMA WATERSHED 522

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				522			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
<p>Watershed conditions: The land use of this 207.8 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.15-1.</p>			Event of May 9-10, 1964							
			5- 9	RG	134		5- 9	2030	11.5	.0000
				2030	.00	.00		2130	43.1	.0002
				2033	1.40	.07		2142	113.4	.0004
				2038	.72	.13		2154	266.1	.0007
				2043	.96	.21		2206	439.9	.0013
				2048	.72	.27				
				2053	2.16	.45		2212	660.5	.0017
				2055	8.40	.73		2218	817.5	.0023
				2058	6.40	1.05		2224	1335.8	.0032
				2102	3.90	1.31		2230	1559.6	.0043
				2107	3.96	1.64		2236	1930.7	.0057
				2110	5.20	1.90	5-10	2242	2332.0	.0073
				2115	1.32	2.01		2254	3015.6	.0114
				2119	1.05	2.08		2306	3028.6	.0159
				2123	1.35	2.17		2330	3421.6	.0256
				2127	1.50	2.27		2400	3735.8	.0390
				2135	.30	2.31		0012	4279.6	.0450
				2148	.14	2.34		0042	4900.8	.0622
				2200	.20	2.38		0106	5292.5	.0774
				2315	.00	2.38		0130	5706.7	.0939
				2332	.14	2.42		0148	6483.6	.1076
								0200	7057.0	.1177
								0218	6915.4	.1334
								0242	7203.4	.1545
								0300	7475.0	.1710
								0318	7562.2	.1879
								0336	7314.1	.2046
								0354	6835.8	.2204
								0406	6502.3	.2304
								0418	5789.0	.2396
								0430	5522.9	.2481
								0442	4903.1	.2560
								0454	4258.9	.2628
								0506	3869.3	.2690
								0524	2957.4	.2766
								0536	2626.8	.2809
								0548	2517.5	.2847
								0600	2129.6	.2883
								0618	1769.7	.2927
								0636	1427.7	.2963
								0654	1245.6	.2993
								0736	1040.6	.3054
								0754	912.8	.3076
								0818	790.2	.3102
								0836	859.4	.3121
								0848	733.0	.3133
								0900	703.0	.3144
								0942	566.3	.3178
								1030	482.1	.3210

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007458. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.15-2. FOR ISOHYETAL MAP SEE P. 69.19-5.



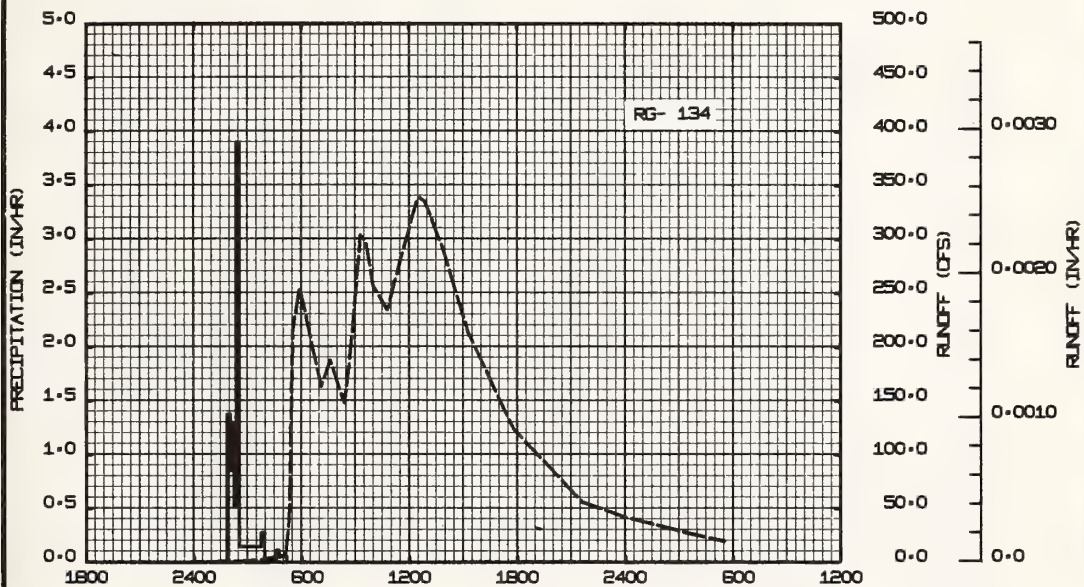
MAY 9-10, 1964

CHICKASHA, OKLAHOMA WATERSHED 522



1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				522	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
<p>Watershed conditions: The land use of this 207.8 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.15-1.</p>			Event of August 18-19, 1964									
			8-18	RG	134				8-18	0000	.6	.0000
				0150	.00	.00	0230	.8		.0000		
				0200	1.38	.23	0342	2.5		.0001		
				0207	.86	.33	0506	6.3		.0002		
				0213	1.30	.46	0518	38.7		.0003		
				0220	.51	.52						
				0232	3.90	1.30	0524	125.5		.0004		
				0343	.14	1.47	0530	215.1		.0005		
				0356	.28	1.53	0554	255.4		.0013		
				0433	.03	1.55	0636	201.1		.0025		
				0444	.11	1.57	0706	163.7		.0033		
							0736	188.0		.0040		
							0800	165.9		.0046		
							0824	148.5		.0051		
						0842	191.7	.0055				
						0900	250.1	.0060				
						0918	304.0	.0067				
						0936	296.7	.0074				
						1000	256.3	.0083				
						1048	234.3	.0098				
						1130	280.1	.0112				
						1230	339.4	.0136				
						1254	335.1	.0146				
						1354	291.2	.0170				
						1518	213.3	.0197				
						1748	124.1	.0229				
						2136	56.2	.0255				
						2400	41.7	.0264				
						8-19	0418	23.8	.0275			

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007458. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.15-2.

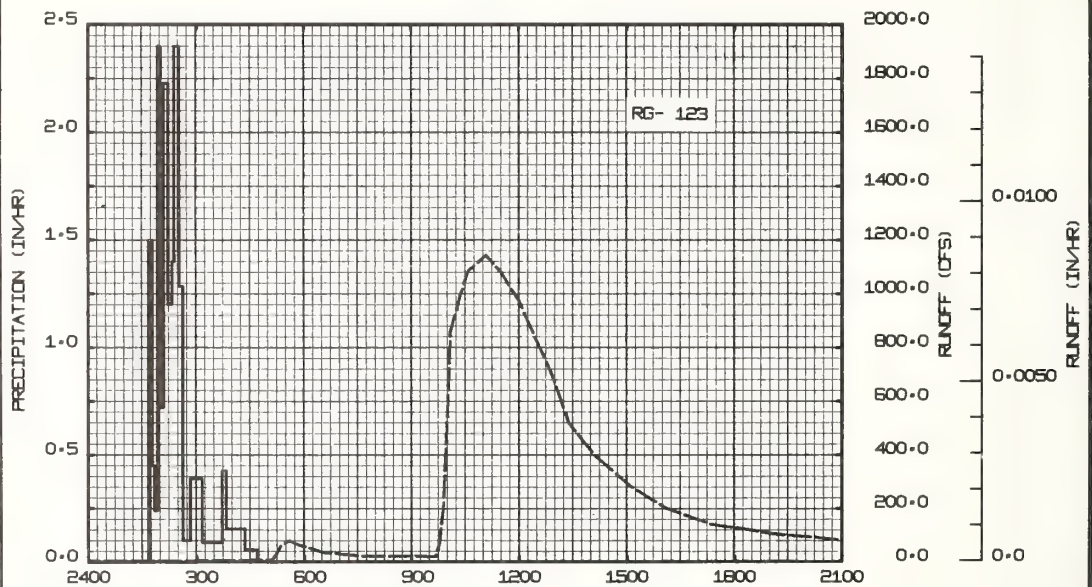


AUGUST 17-19, 1964

CHICKASHA, OKLAHOMA WATERSHED 522

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				522
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of September 20, 1964											
Watershed conditions: The land use of this 207.8 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.15-1.			9-20	RG	123		9-20				
				0140	.00	.00		0000	3.4	.0000	
				0146	1.50	.15		0154	3.7	.0001	
				0150	.45	.18		0506	8.0	.0002	
				0155	.24	.20		0512	23.3	.0003	
				0200	2.40	.40		0524	66.9	.0004	
				0205	.72	.46		0536	79.8	.0006	
				0212	2.23	.72		0554	62.4	.0008	
				0219	1.20	.86		0636	35.0	.0011	
				0222	1.40	.93		0736	22.2	.0014	
				0230	2.40	1.25		0942	20.9	.0017	
				0237	1.29	1.40		0948	67.1	.0018	
				0249	.10	1.42		0954	196.1	.0020	
				0309	.39	1.55		1000	536.6	.0023	
				0342	.09	1.60		1006	856.7	.0029	
				0349	.43	1.65		1024	1002.8	.0050	
				0420	.16	1.73		1036	1086.1	.0066	
				0441	.06	1.75		1106	1144.6	.0108	
								1130	1079.3	.0142	
								1200	973.8	.0181	
								1224	858.1	.0208	
								1254	710.1	.0238	
								1312	597.8	.0253	
								1324	519.7	.0262	
								1406	402.2	.0287	
								1506	284.9	.0313	
								1606	202.8	.0332	
								1718	143.4	.0347	
								1906	106.1	.0365	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007458. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.15-2.



SEPTEMBER 20, 1964

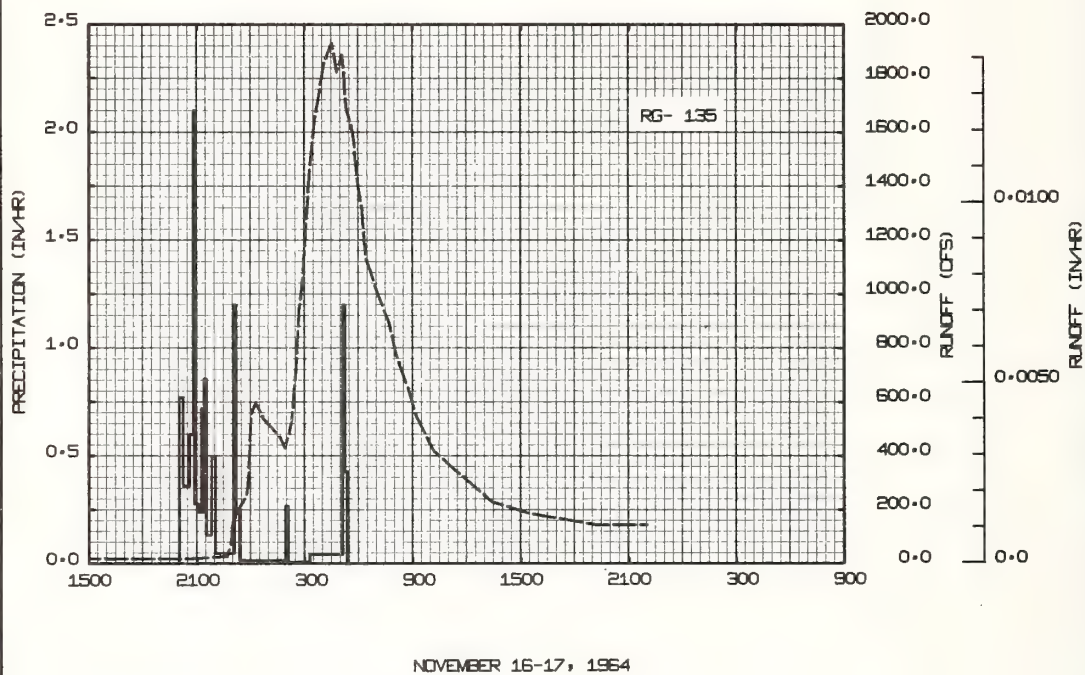
CHICKASHA, OKLAHOMA WATERSHED 522

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA			522		
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
Event of November 16-17, 1964												
Watershed conditions: The land use of this 207.8 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.15-1.			11-16	RG	135		11-16	0000	16.2	.0000		
				2000	.00	.00		2030	18.1	.0026		
				2014	.77	.18		2242	26.9	.0030		
				2034	.36	.30		2254	65.3	.0032		
				2047	.60	.43		2300	155.5	.0033		
				2051	2.10	.57						
				2104	.28	.63		2324	208.0	.0039		
				2114	.24	.67		2342	241.9	.0044		
				2119	.72	.73		2348	263.1	.0047		
				2124	.24	.75		2354	337.5	.0050		
				2131	.86	.85		2400	555.0	.0053		
			11-17	2149	.13	.89	11-17	0018	597.4	.0067		
				2201	.50	.99		0042	538.5	.0084		
				2305	.05	1.04		0136	474.6	.0119		
				2310	1.20	1.14		0154	430.2	.0129		
				2322	.25	1.19		0206	470.6	.0137		
				0156	.02	1.23		0218	534.5	.0145		
				0205	.27	1.27		0224	622.2	.0149		
				0316	.01	1.28		0230	710.5	.0155		
				0506	.04	1.36		0236	812.0	.0161		
				0513	1.20	1.50		0242	939.4	.0168		
			11-17	0520	.43	1.55		0254	1059.2	.0183		
								0306	1279.4	.0201		
								0318	1466.6	.0222		
								0336	1658.1	.0258		
								0406	1859.9	.0324		
								0430	1930.2	.0381		
								0448	1822.8	.0423		
								0506	1886.0	.0465		
								0518	1694.7	.0493		
								0542	1593.3	.0542		
								0554	1440.7	.0565		
								0612	1307.8	.0597		
								0624	1137.5	.0615		
								0706	995.9	.0671		
								0742	893.2	.0714		
								0806	773.5	.0740		
								0842	659.7	.0772		
								0912	550.0	.0795		
								0930	503.7	.0807		
								1012	417.1	.0832		
								1118	351.0	.0864		
								1324	229.6	.0910		
								1530	186.7	.0943		
								1800	157.7	.0976		
								1912	144.0	.0990		

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007458. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.15-2.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007458. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.15-2.





CHICKASHA, OKLAHOMA WATERSHED 522

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 512 AT TABLER AREA — 22,530 ACRES (35.2 SQ. MILES) <sup>1/</sup>							
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 <sup>P2/</sup>	1.63	1.17	1.18	1.93	3.28	2.40	1.00	7.42	3.08	1.07	.05	1.08	25.29
<sup>Q</sup>	.183	.158	.221	.224	.166	.093	.014	.781	.120	.044	.060	.082	2.146
STA AVG <sup>P3/</sup>	.87	1.17	1.45	2.20	3.44	4.16	1.67	3.90	3.71	1.54	2.89	1.02	28.02
<sup>Q</sup>	.132	.130	.156	.150	.324	.091	.008	.320	.100	.062	.296	.100	1.869
MEAN <sup>P4/</sup>	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16
65 YR													

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-8	.1343	8-8	.1294	8-8	.2441	8-7	.472	8-7	.523	8-7	.543	8-7	.552	8-6	.568

MAXIMUMS FOR PERIOD OF RECORD <sup>5/</sup>

19 63 to 1965	8-8	.1343	8-8	.1294	8-8	.2441	8-7	.472	8-7	.523	8-7	.543	8-7	.552	8-6	.568
	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965	1965

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, P. 69.16-1. For Geologic map, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.7-9. Composite map (revised), P. 69.7-21 and Topography map (revised), P. 69.16-8. <sup>1/</sup>Drainage area has been changed from previous years as a result of recomputing it from newer 15-minute quadrangle maps. <sup>2/</sup>Precipitation data obtained from a Thiessen weighted average of 10 gages on the watershed. <sup>3/</sup>Precipitation records began Oct. 1961; runoff records began July 1963. <sup>4/</sup>Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. <sup>5/</sup>Period of record began July 1963.

## MISCELLANEOUS DATA

**RUNOFF PEAK DATA:** YEAR (1965): Maximum — Aug. 8, 3,051 cfs (10.73 ft). Minimum — July 18, no flow.

PERIOD OF RECORD: Maximum — Aug. 8, 1965, 3,051 cfs (10.73 ft). Minimum — No flow.

PEAK DISCHARGES: (Above base flow of 600 cfs) 1965 — Aug. 8, 3,051 cfs (10.73 ft); Aug. 28, 1,204 cfs (7.77 ft).

**DAILY TEMPERATURE:** See Page 69.7-3.

**LOCATION:** (Revision) Gaging Station—SW $\frac{1}{4}$  sec. 27, T. 7 N., R. 6 W., lat. 35°05'20", at Tabler, Okla., at U.S. Highway 62 bridge.

**AREA:** (Revision) 22,530 acres (35.2 sq. miles).

**SOILS:** (Revision) Residual, derived from fine grained sandstone and shale materials. They are deep, fine textured soils on gently rolling to rolling slopes with more shallow soils on the breaks. <sup>1/</sup>

Soil	Per- cent of area	Topsoil			Subsoil		Substratum		Internal drainage
		Avg. depth (in.)	Structure	Permea- bility	Structure	Permea- bility	Avg. depth to(in.)	Permea- bility	
Kingfisher silt loam	57	12	Moderate medium granular	Moderate	Strong medium subangular blocky	Moderate	40	Moderately slow	Medium
Grant-Nash silt loams	16	7	Moderate medium granular	Moderate	Moderate medium subangular blocky	Moderate	30	Moderate	Medium
Quinlan loam	14	6	Weak fine granular	Moderately rapid	Weak very fine subangular blocky	Moderate	24	Moderate	Medium
Port-Yahola Reinach silt loams	7	20	Moderate fine	Moderate	Moderate medium granular	Moderate	45	Moderate	Medium
Chickasha loam	6	14	Moderate fine granular	Moderate	Moderate medium subangular blocky	Moderate	45	Moderate	Medium

<sup>1/</sup> Information presented for general descriptive purposes and not intended to be precise data.

**SURFACE DRAINAGE:** (Revision) Good, length of principal waterway 11.9 miles.

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 512 AT TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.33	.00	.00	.00	.00	.30	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.13	.00	.00	.00	.00	.39	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.02	.00	.00	.01	.00	.00
5	.00	.00	.00	.24	.00	.11	.00	.00	.00	.00	.03	.00
6	.00	.00	.00	.00	.00	.00	.00	1.21	.00	.00	.00	.00
7	.00	.10	.00	.02	.00	.00	.00	2.63	.00	.00	.00	.00
8	.03	.32	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
9	.45	.19	.00	.00	.32	.00	.22	.00	.00	.00	.00	.00
10	.00	.00	.00	.08	.13	.00	.00	.04	.00	.00	.00	.16
11	.00	.01	.93	.12	.00	.00	.00	.00	.00	.04	.00	.02
12	.00	.00	.08	.00	.00	.34	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.75	.41	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.23	.02	.00	.00	.04	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.17	.00	.12	.00	.00
16	.00	.00	.06	.00	.00	.00	.00	.05	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.45	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.15	.90	.00	.02
19	.00	.00	.00	.00	.05	.00	.00	.09	1.47	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00	.02	.00
21	.62	.00	.00	.00	.00	.65	.00	.00	.60	.00	.00	.00
22	.19	.00	.00	.00	.00	.16	.00	.49	.00	.00	.00	.00
23	.01	.05	.00	.00	.00	.00	.00	.06	.00	.00	.00	.18
24	.00	.00	.00	.05	.10	.16	.00	.00	.02	.00	.00	.66
25	.00	.00	.11	.01	.08	.11	.36	.00	.00	.00	.00	.00
26	.00	.00	.00	.05	.71	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.16	.00	.03	.56	.00	.00	.00	.00
28	.00	.44	.00	.00	.81	.00	.37	1.49	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.05	-----	.00	.46	-----	.00	-----	.03
TOTAL	1.63	1.17	1.18	1.93	3.28	2.40	1.00	7.42	3.08	1.07	.05	1.08
STAAV	.87	1.17	1.45	2.20	2.44	4.16	1.67	3.90	3.71	1.54	2.89	1.02

NOTES:

YEARLY PRECIPITATION 25.29 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 10 GAGES ON THE WATERSHED.

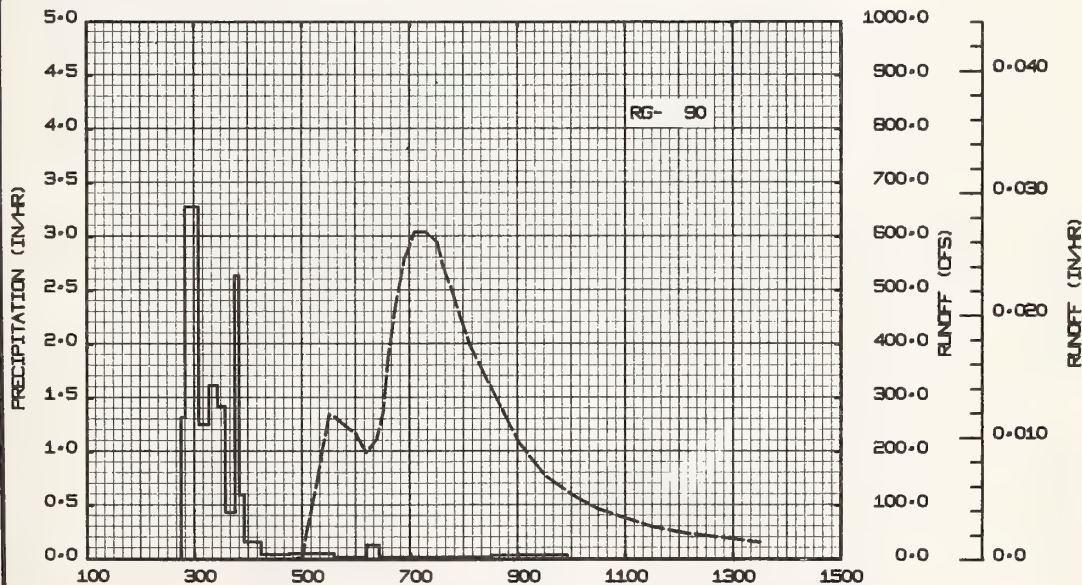
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 512 AT TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	4.9	5.0E	12	5.6	4.0	3.4	.9	.2	4.0	1.1	3.3	1.8
2	6.7	4.8E	5.8	5.4	3.9	6.7	.8	.1	1.5	1.0	1.8	1.9
3	4.7	5.1E	5.1	6.3	4.0	3.5	.7	.0	1.5	1.2	1.5	2.0
4	4.3	5.1	4.8	5.8	4.1	3.2	.6	.0	5.1	1.3	1.5	2.0
5	4.4	5.1	4.8	7.2	4.4	3.5	.6	.0	1.5	1.5	1.7	2.2
6	4.4	5.4	4.7	7.6	4.4	2.9	.6	7.1	1.1	1.5	1.8	2.2
7	4.4	5.8	4.4	5.4	3.9	2.4	.5	70	1.0	1.5	1.8	2.1
8	4.3	5.8	4.7	5.6	4.1	2.4	.4	449	.9	1.3	2.1	2.1
9	4.3	9.4	4.7	5.3	5.6	2.3	.4	8.1	.9	1.2	1.8	2.1
10	7.0E	7.6	4.6	5.4	6.4	2.2	2.4	3.6	.7	1.1	1.8	2.4
11	5.6E	6.1	8.3	5.9	4.6	2.1	.5	2.3	.6	.9	1.8	2.6
12	5.6	5.9	28	4.7	4.0	2.2	.3	1.6	.6	.7	1.9	2.6
13	5.3	5.1	9.0	4.7	4.3	5.8	.2	1.3	.5	.8	1.9	2.0
14	4.8	5.1	7.8	22	18	3.5	.2	1.1	.7	.9	1.9	2.3
15	5.0	5.3	7.2	34	4.7	2.5	.3	1.2	.4	1.2	2.0	2.2
16	4.3E	5.1	7.2	8.1	3.9	2.7	.2	1.6	.2	1.7	1.8	2.2
17	4.7E	5.0	7.4	7.0	3.8	2.4	.1	1.4	.3	1.2	1.7	2.2
18	4.6	5.0	5.9	6.4	3.8	2.0	.0	.9	.7	3.7	1.8	2.2
19	4.6	5.0	5.4	5.6	3.5	1.9	.0	.7	8.1	3.7	1.8	2.2
20	4.8	5.0	5.9	5.4	3.4	1.8	.0	.7	28	1.8	1.9	2.2
21	6.3	4.8	5.8	5.3	3.1	3.5	.0	.7	39	1.4	2.1	2.1
22	15	4.3	5.8	5.0	2.7	7.6	.0	.7	3.6	1.3	2.2	2.1
23	8.4	4.3	5.9	4.8	2.7	2.3	.0	8.7	2.1	1.3	2.1	2.4
24	6.3	5.8	5.3	4.7	2.9	1.8	.0	1.8	1.7	1.4	2.0	7.9
25	6.4	5.1	5.9	4.8	3.4	5.6	1.3	1.1	1.8	1.3	1.9	4.6
26	5.6	4.7	5.8	5.3	9.8	2.5	.9	.8	1.8	1.3	1.8	2.7
27	5.0	4.6	5.4	5.4	4.0	1.8	.3	.5	1.5	1.2	1.6	2.5
28	5.3	4.8	5.6	4.7	18	1.4	.4	131	1.6	.8	1.6	2.5
29	5.3		5.4	4.7	4.8	1.2	.3	3.4	1.3	.8	1.8	2.4
30	5.6	-----	5.3	4.3	3.5	1.1	.2	1.8	1.2	.7	1.8	2.4
31	5.1	-----	5.4	-----	3.3	-----	.2	38	-----	1.0	-----	2.4
MEAN	5.6	5.4	6.8	7.1	5.1	2.9	.4	24	3.8	1.3	1.9	2.5
INCHES	.183	.158	.221	.224	.166	.093	.014	.781	.120	.044	.060	.082

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .001056. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 1.877. YEARLY MEAN DISCHARGE, 5.6 CFS. YEARLY DISCHARGE, 2.146 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				512			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of August 7, 1964										
			8- 7	RG	90		8- 7			
				0245	.00	.00		0454	.0	.0000
				0250	1.32	.11		0500	3.1	.0001
				0305	3.28	.93		0506	53.3	.0003
				0316	1.26	1.16		0512	101.0	.0007
				0326	1.62	1.43		0518	149.2	.0013
				0334	1.43	1.62		0524	210.5	.0021
				0345	.44	1.70		0530	270.0	.0032
				0350	2.64	1.92		0536	265.9	.0044
				0355	.60	1.97		0600	231.7	.0089
				0414	.16	2.02		0612	198.8	.0108
				0445	.04	2.04		0624	224.5	.0127
				0535	.05	2.08		0630	276.0	.0139
				0611	.02	2.09		0636	365.8	.0153
				0625	.13	2.12		0642	444.5	.0172
				0830	.01	2.15		0654	555.9	.0216
				0955	.04	2.20		0706	609.2	.0268
								0718	609.2	.0322
								0730	588.8	.0375
								0736	552.7	.0401
								0748	496.7	.0448
								0806	403.9	.0508
								0830	318.9	.0572
								0900	219.2	.0631
								0930	156.1	.0673
								1000	120.0	.0704
								1030	92.8	.0728
								1130	59.8	.0762
								1200	49.9	.0775

Watershed conditions: The land use of this 35.2 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.16-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004400. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.16-2.



AUGUST 7, 1964

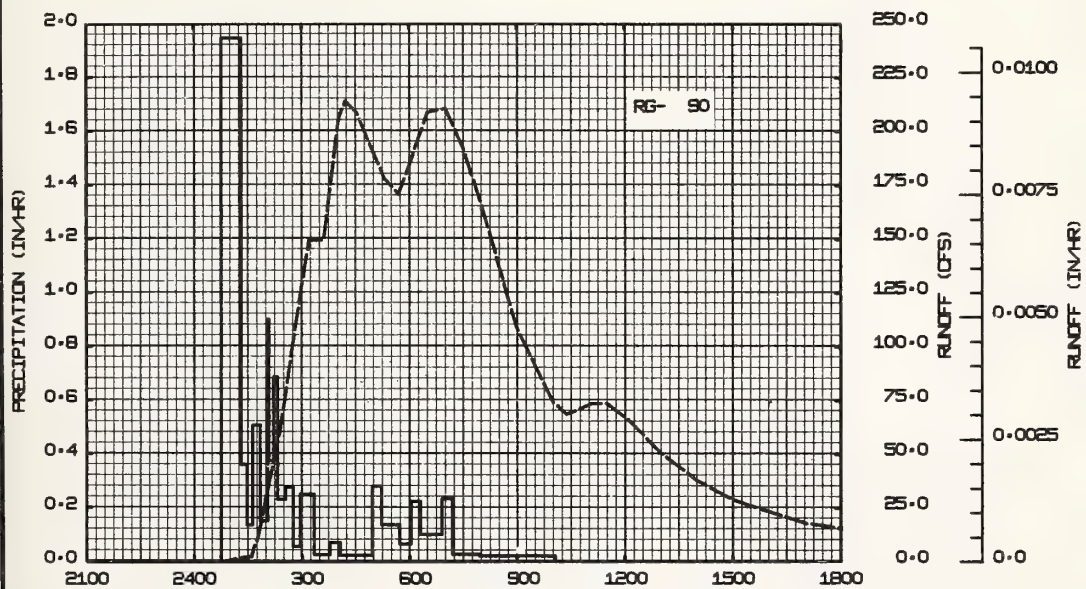
CHICKASHA, OKLAHOMA WATERSHED 512



1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				512	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
			Event of August 15, 1964									
			8-15	RG	90		8-15					
				0045	.00	.00		0054	.0	.0000		
				0118	1.95	1.07		0100	.3	.0000		
				0128	.36	1.13		0106	.8	.0001		
				0137	.13	1.15		0118	1.4	.0001		
				0150	.51	1.26		0136	2.1	.0002		
				0202	.15	1.29		0148	12.0	.0003		
				0204	.90	1.32		0200	30.1	.0005		
				0212	.38	1.37		0224	60.6	.0014		
				0219	.69	1.45		0248	106.4	.0029		
				0232	.23	1.50		0312	149.2	.0052		
				0245	.28	1.56		0336	149.2	.0079		
				0256	.06	1.57		0400	205.4	.0110		
				0320	.25	1.67		0412	213.9	.0129		
				0346	.02	1.68		0430	208.8	.0158		
				0403	.07	1.70		0518	178.1	.0226		
				0457	.02	1.72		0542	170.6	.0258		
				0512	.28	1.79		0606	189.1	.0290		
				0543	.14	1.86		0630	208.8	.0325		
				0602	.06	1.88		0700	210.5	.0372		
				0618	.23	1.94		0730	192.3	.0417		
				0654	.10	2.00		0800	166.2	.0457		
				0712	.23	2.07		0900	108.6	.0518		
				0758	.03	2.09		1000	74.3	.0558		
				1004	.02	2.13		1024	68.4	.0571		
								1106	73.4	.0594		
								1130	73.4	.0607		
						1206	66.0	.0626				
						1300	50.6	.0650				
						1400	37.8	.0670				
						1500	28.7	.0685				
						1700	17.9	.0706				
						1900	13.0	.0720				
Watershed conditions: The land use of this 35.2 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.16-1.												

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004400. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.16-2.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004400. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.16-2.

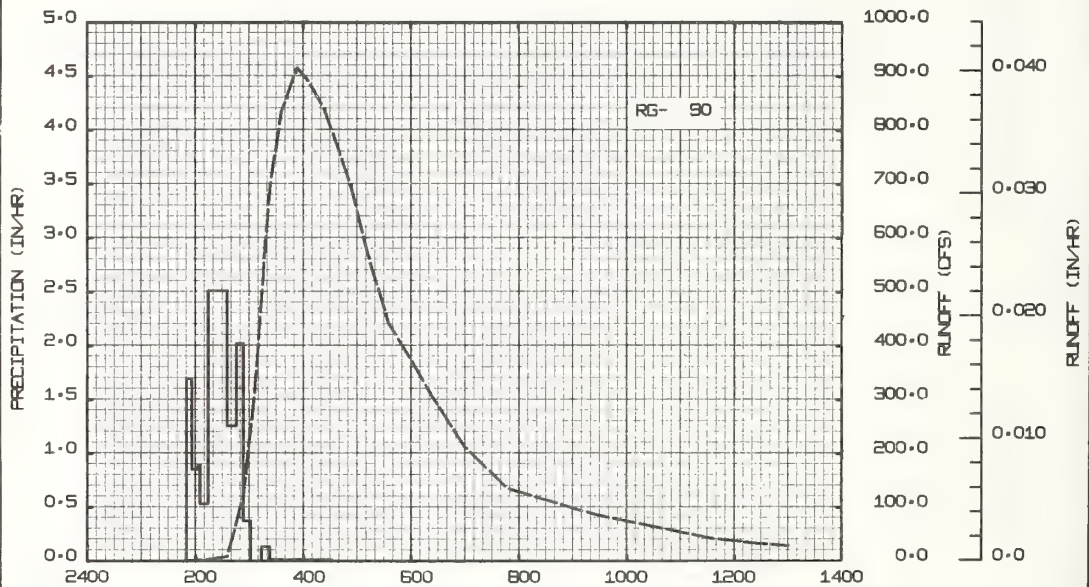


AUGUST 14-15, 1964

CHICKASHA, OKLAHOMA WATERSHED 512

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				512
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
Event of September 20, 1964											
Watershed conditions: The land use of this 35.2 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.16-1.			9-20	RG	90		9-20				
				0150	.00	.00		0136	.1	.0000	
				0156	1.70	.17		0154	1.0	.0000	
				0203	.86	.27		0206	2.1	.0001	
				0205	.90	.30		0218	4.5	.0001	
				0214	.53	.38		0236	8.1	.0003	
				0235	2.51	1.26		0242	43.0	.0004	
				0245	1.26	1.47		0254	121.2	.0012	
				0253	2.03	1.74		0306	307.8	.0032	
				0301	.38	1.79		0312	439.0	.0048	
				0313	.00	1.79		0318	580.5	.0071	
				0322	.13	1.81		0324	700.6	.0100	
				0431	.02	1.83		0336	832.2	.0168	
								0348	889.3	.0244	
								0354	915.7	.0284	
								0406	892.2	.0365	
								0424	840.7	.0479	
								0454	695.5	.0649	
								0512	573.6	.0733	
								0536	441.7	.0823	
								0554	393.5	.0879	
								0624	307.8	.0956	
								0700	212.2	.1025	
								0748	136.0	.1087	
								0924	87.9	.1167	
								1130	43.6	.1228	
								1212	35.6	.1240	

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004400. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.16-2.

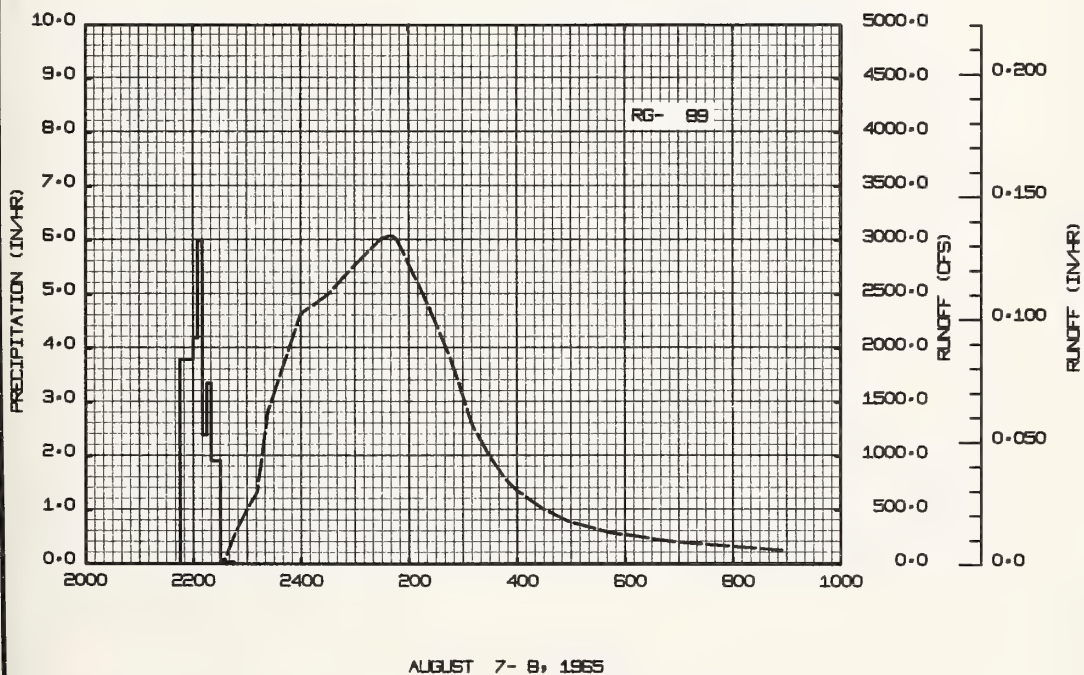


SEPTEMBER 20, 1964

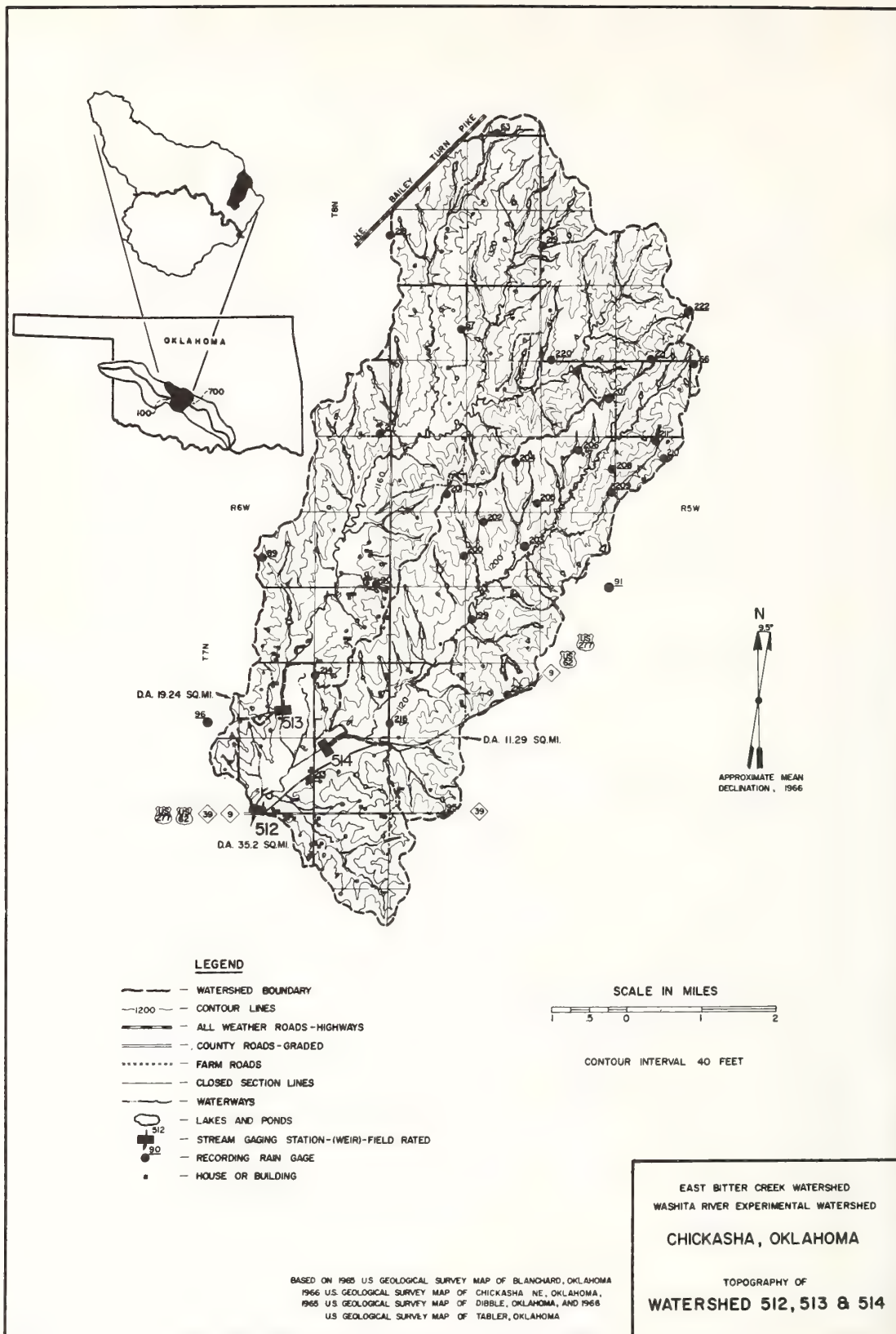
CHICKASHA, OKLAHOMA WATERSHED 512

1965 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				512			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of August 7-8, 1965										
Watershed conditions: The land use of this 35.2 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.16-1.			8- 7	RG	89		8- 7	2230	16.8	.0000
				2145	.00	.00		2236	44.8	.0001
				2200	3.80	.95		2248	297.8	.0017
				2205	4.20	1.30		2300	511.6	.0053
				2210	6.00	1.80		2312	662.8	.0105
				2215	2.40	2.00				
				2220	3.36	2.28		2318	1021.7	.0143
				2230	1.92	2.60		2324	1409.5	.0197
				2245	.04	2.61		2330	1581.1	.0263
								2400	2323.7	.0693
							8- 8	0030	2497.8	.1224
								0048	2657.5	.1565
								0100	2769.9	.1804
								0130	3019.2	.2441
								0142	3051.3	.2709
								0148	3011.2	.2843
								0218	2490.7	.3448
								0248	1894.3	.3931
								0312	1287.5	.4212
								0330	997.2	.4363
								0348	789.2	.4482
								0400	680.0	.4547
								0430	505.9	.4678
								0500	384.6	.4776
								0542	295.8	.4881
								0630	231.7	.4975
								0700	201.7	.5023

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004400. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.16-2, THIS PUBLICATION. FOR ISOHYETAL MAP, SEE P. 69.19-7.







MONTHLY PRECIPITATION AND RUNOFF (inches)							CHICKASHA, OKLAHOMA WATERSHED 621 NEAR TABLER AREA — 21,310 ACRES (33.3 SQ. MILES)							
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL	
1965 P 1/ Q	2.25 .244	.99 .187	1.07 .192	2.25 .272	3.57 .188	2.05 .077	1.05 .020	7.37 .429	4.58 .401	1.06 .175	.05 .083	1.09 .105	27.38 2.373	
STA AVG P 2/ Q	1.04 .164	1.14 .151	1.34 .144	2.42 .183	3.93 .564	3.89 .096	1.46 .011	3.50 .290	4.06 .336	1.51 .080	2.85 .325	1.02 .110	28.16 2.454	
MEAN P 3/ 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16	

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-8	.0688	8-8	.0482	8-8	.0702	8-7	.099	8-7	.107	8-7	.112	8-7	.118	9-17	.258

MAXIMUMS FOR PERIOD OF RECORD 4/															*	
19 63 TO 1965	5-10 1964	.2074	5-10 1964	.1790	5-10 1964	.2690	5-10 1964	.337	5-10 1964	.350	5-9 1964	.618	5-9 1964	.672	5-5 1964	.790

Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, P. 69.17-1. For Geologic map, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, P. 69.7-9. Composite map (revised), P. 69.7-21 and Topography map (revised), P. 69.17-8. 1/Precipitation data obtained from a Thiessen weighted average of 9 gages on the watershed. 2/Precipitation records began Oct. 1961; runoff records began Oct. 1963. 3/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 4/Period of record began Oct. 1963.

MISCELLANEOUS DATA														
<p><b>RUNOFF PEAK DATA:</b> YEAR (1965): Maximum — Aug. 8, 1,480 cfs (6.36 ft). Minimum — July 17, no flow.</p> <p><b>PERIOD OF RECORD:</b> Maximum — May 10, 1964, 4,460 cfs (8.62 ft). Minimum — No flow.</p> <p><b>PEAK DISCHARGES:</b> (Above base flow of 500 cfs) 1965 — Apr. 14, 544 cfs (5.21 ft); Aug. 8, 1,480 cfs (6.36 ft); Aug. 28, 951 cfs (6.00 ft); Sept. 17, 557 cfs (5.25 ft); Sept. 19, 510 cfs (5.10 ft); Sept. 21, 631 cfs (4.86 ft).</p>														
<p><b>DAILY TEMPERATURE:</b> See Page 69.7-3.</p>														

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 621 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.67	.00	.00	.00	.00	.22	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.07	.00	.00	.00	.30	.36	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
5	.00	.00	.00	.20	.00	.12	.00	.00	.00	.00	.03	.00
6	.00	.00	.00	.00	.00	.00	.00	1.26	.00	.00	.00	.00
7	.00	.12	.00	.00	.00	.00	.00	1.50	.00	.00	.00	.00
8	.03	.42	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00
9	.47	.13	.00	.00	.39	.00	.06	.00	.00	.00	.00	.00
10	.00	.00	.00	.08	.13	.00	.00	.04	.00	.00	.00	.17
11	.00	.01	.92	.60	.00	.01	.00	.00	.00	.05	.00	.02
12	.00	.00	.03	.00	.00	.23	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.86	.40	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.20	.03	.00	.00	.03	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	1.06	.00	.00	.00	.00
16	.00	.00	.04	.00	.00	.00	.00	.06	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	1.41	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.26	.98	.00	.01
19	.00	.00	.00	.00	.10	.00	.00	.00	1.75	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.21	.01	.00	.02	.00
21	.67	.00	.00	.00	.00	.52	.00	.00	.78	.00	.00	.00
22	.40	.00	.00	.00	.00	.12	.00	1.09	.00	.00	.00	.00
23	.01	.05	.00	.00	.00	.00	.00	.08	.00	.00	.00	.23
24	.00	.00	.00	.04	.10	.07	.00	.00	.01	.00	.00	.64
25	.00	.00	.08	.00	.16	.08	.53	.00	.00	.00	.00	.00
26	.00	.00	.00	.06	.94	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.05	.00	.00	.36	.00	.00	.00	.00
28	.00	.26	.00	.00	.68	.00	.46	1.74	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	-----	.00	-----	.09	-----	.00	.94	-----	.00	-----	.02
TOTAL	2.25	.99	1.07	2.25	3.57	2.05	1.05	7.37	4.58	1.06	.05	1.09
STA AV	1.04	1.14	1.34	2.42	3.93	3.89	1.46	3.50	4.06	1.51	2.85	1.02

NOTES:

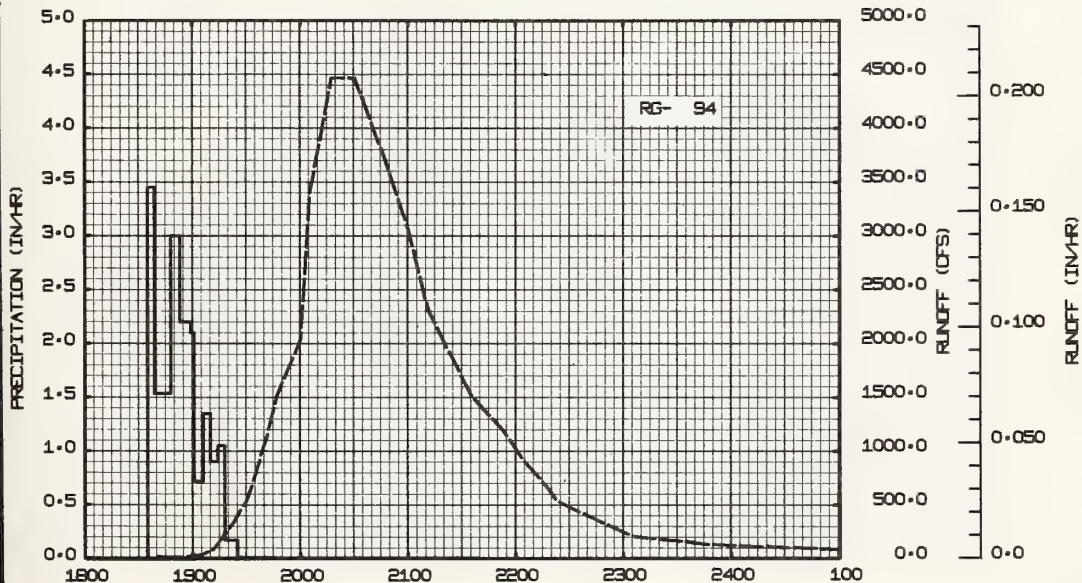
YEARLY PRECIPITATION 27.38 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 9 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 621 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	15	3.9E	7.0	5.4	3.9	2.9	.6	.2	14	2.0	2.6	2.2
2	12	4.8E	4.4	5.4	3.7	9.3	.4	.0	7.6	1.8	2.5	2.4
3	5.4	5.9E	4.8	5.4	4.1	2.7	1.0	.0	5.2	5.6	2.5	2.4
4	5.4	6.1	5.0	4.6	4.3	2.5	.6	.0	6.8	7.9	2.8	2.4
5	4.6	6.1	4.8	6.3	3.9	3.2	.6	.0	3.3	8.4	3.5	2.4
6	5.0	6.8	4.8	5.2	4.3	2.4	.6	7.2	2.2	8.7	3.5	2.2
7	5.4	7.3	5.0	5.0	3.9	2.1	.4	11	1.5	10	3.5	2.1
8	5.0	7.0	4.8	5.2	4.4	2.0	.3	93	1.1	8.7	3.0	2.2
9	2.9	10	5.0	5.0	8.2	1.8	.3	5.7	0.7	9.5	2.5	2.5
10	4.8	7.0	5.0	5.2	6.3	1.8	.4	8.5	0.6	8.7	2.4	3.9
11	4.8	6.6	9.2	21	3.9	1.8	.1	6.2	0.5	7.4	2.4	3.9
12	5.2	5.4	9.7	4.1	3.4	1.9	.1	5.4	0.4	7.0	2.4	3.0
13	5.9	5.9	6.6	4.3	6.6	5.9	.0	5.6	0.3	6.2	2.1	2.6
14	5.2	5.7	6.1	70	23	2.1	.1	3.2	0.1	5.6	2.8	3.0
15	5.0	5.9	5.9	19	3.6	1.9	.1	2.5	0.1	4.1	2.8	2.6
16	3.6	5.7	6.1	5.9	3.2	2.1	.1	1.9	0.0	3.9	2.1	2.5
17	4.8	6.1	5.4	5.0	3.1	1.7	.0	1.4	31	2.8	1.7	2.5
18	4.8	6.1	4.8	5.2	3.2	1.6	.0	.9	39	9.8	2.0	2.8
19	4.8	6.3	4.8	5.0	3.4	1.5	.0	.8	97	5.2	2.1	2.6
20	4.8	6.3	6.6	5.0	3.1	1.2	.0	1.6	26	3.7	2.5	2.5
21	* 8.5	5.9	5.2	4.8	2.5	3.7	.0	.6	63	3.0	2.6	2.4
22	33	5.7	5.2	4.3	2.4	3.9	.0	13	15	3.0	2.8	2.4
23	9.7	4.1	5.0	4.3	3.1	1.5	.0	5.9	10	2.8	2.4	3.0
24	8.9	4.1	4.8	4.4	3.1	1.3	.0	2.9	9.0	2.6	2.4	12
25	7.3	6.3	5.2	4.8	3.4	1.8	7.9	1.8	7.9	2.6	2.4	3.5
26	7.0	5.4	5.4	5.2	20	1.4	1.4	1.0	5.9	2.6	2.1	3.0
27	7.0	4.8	5.2	4.8	3.2	.9	.6	.6	3.9	2.6	1.8	3.1
28	7.0	6.1	5.4	4.3	17	.8	1.4	* 135	3.0	2.8	2.0	3.0
29	4.8		4.8	4.6	3.9	.7	.3	14	2.5	2.5	1.8	2.8
30	5.9	-----	4.8	4.4	2.9	.7	.1	* 7.9	* 1.7	2.5	2.4	2.8
31	4.8	-----	5.0	-----	3.1	-----	.1	* 46	-----	2.6	-----	3.0
MEAN	7.0	6.0	5.5	8.1	5.4	2.3	0.6	12	12	5.1	2.5	3.0
INCHES	.244	.187	.192	.272	.188	.077	.020	.429	.401	.175	.083	.105

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .001117. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 1.776. YEARLY MEAN DISCHARGE, 5.4 CFS. YEARLY DISCHARGE, 2.373 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				621			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of May 10-11, 1964										
			5-10	RG	94		5-10			
			1835		.00	.11	1842		7.6	.0000
			1839		3.45	.34	1854		10.2	.0001
			1848		1.53	.57	1906		27.6	.0003
			1853		3.00	.82	1912		75.2	.0006
			1859		2.20	1.04	1918		205.6	.0013
Watershed conditions: The land use of this 33.3 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.17-1.										
			1901		2.10	1.11	1924		345.2	.0026
			1906		.72	1.17	1930		535.7	.0047
			1910		1.35	1.26	1936		783.5	.0079
			1914		.90	1.32	1942		1116.3	.0123
			1918		1.05	1.39	1948		1518.3	.0185
			1925		.17	1.41	2000		2033.7	.0351
			2138		.01	1.42	2006		3377.2	.0477
							2018		4464.9	.0843
							2030		4464.9	.1259
							2036		4237.7	.1462
							2048		3705.2	.1832
							2100		3055.1	.2147
							2112		2313.9	.2398
							2124		1913.6	.2595
							2136		1518.3	.2755
							2154		1191.4	.2945
							2206		904.3	.3043
							2218		674.4	.3117
							2224		535.7	.3145
							2248		345.2	.3228
							2306		207.3	.3267
							2348		131.4	.3323
							2400		119.9	.3335
							5-11	0100	87.0	.3383

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004654. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.17-2. FOR ISOHYETAL MAP, SEE P. 69.19-6.



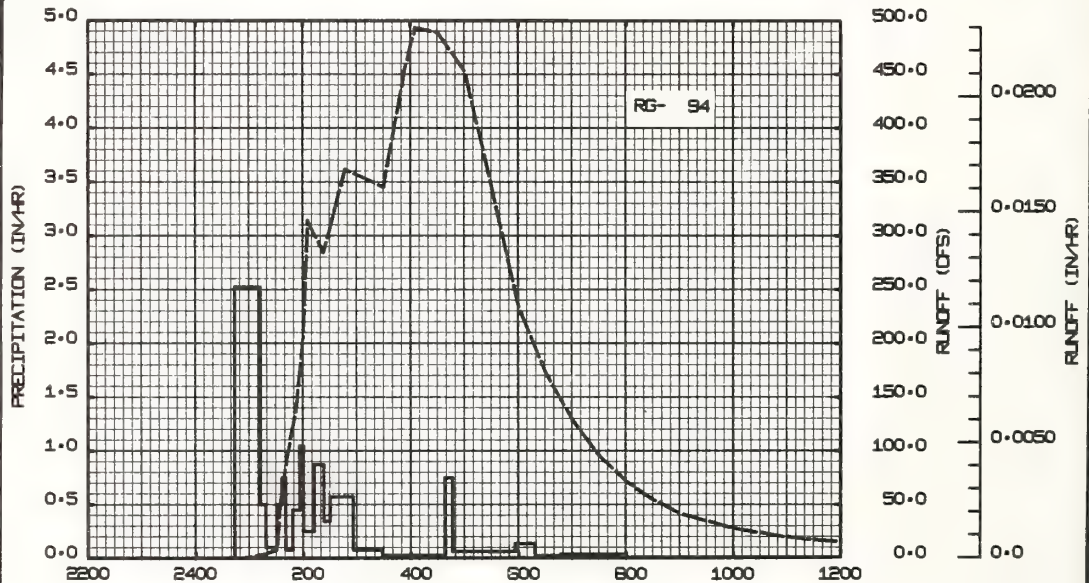
MAY 10-11, 1964  
CHICKASHA, OKLAHOMA WATERSHED 621



1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				621	
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF					
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)		
				Event of August 15, 1964								
			8-15	RG	94		8-15					
				0043	.00	.00		0054	.0	.0000		
				0112	2.52	1.22		0100	.9	.0001		
				0118	.50	1.27		0118	3.5	.0001		
				0130	.10	1.29		0130	7.6	.0002		
				0136	.50	1.34		0136	53.8	.0004		
				0140	.75	1.39		0142	90.1	.0008		
				0148	.08	1.40		0154	144.9	.0020		
				0156	.45	1.46		0200	207.9	.0028		
				0200	1.05	1.53		0206	313.8	.0041		
				0212	.25	1.58		0224	284.5	.0083		
				0223	.87	1.74		0248	361.7	.0144		
				0230	.34	1.78		0330	345.2	.0259		
				0256	.58	2.03		0336	368.5	.0277		
				0328	.08	2.07		0354	452.5	.0334		
				0438	.03	2.10		0406	492.9	.0379		
				0446	.75	2.20		0430	488.7	.0471		
				0556	.06	2.27		0500	452.5	.0581		
				0618	.14	2.32		0530	345.2	.0674		
				0647	.02	2.33		0600	234.2	.0742		
				0759	.03	2.37		0630	172.9	.0790		
				1546	.00	2.39		0700	128.8	.0825		
						0730	95.4	.0852				
						0800	71.5	.0872				
						0830	54.6	.0887				
						0900	41.7	.0899				
						1000	27.6	.0916				
						1100	19.6	.0927				
						1200	15.0	.0936				
						1400	8.8	.0947				
Watershed conditions: The land use of this 33.3 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.17-1.												

Watershed conditions: The land use of this 33.3 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.17-1.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004654. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.17-2.



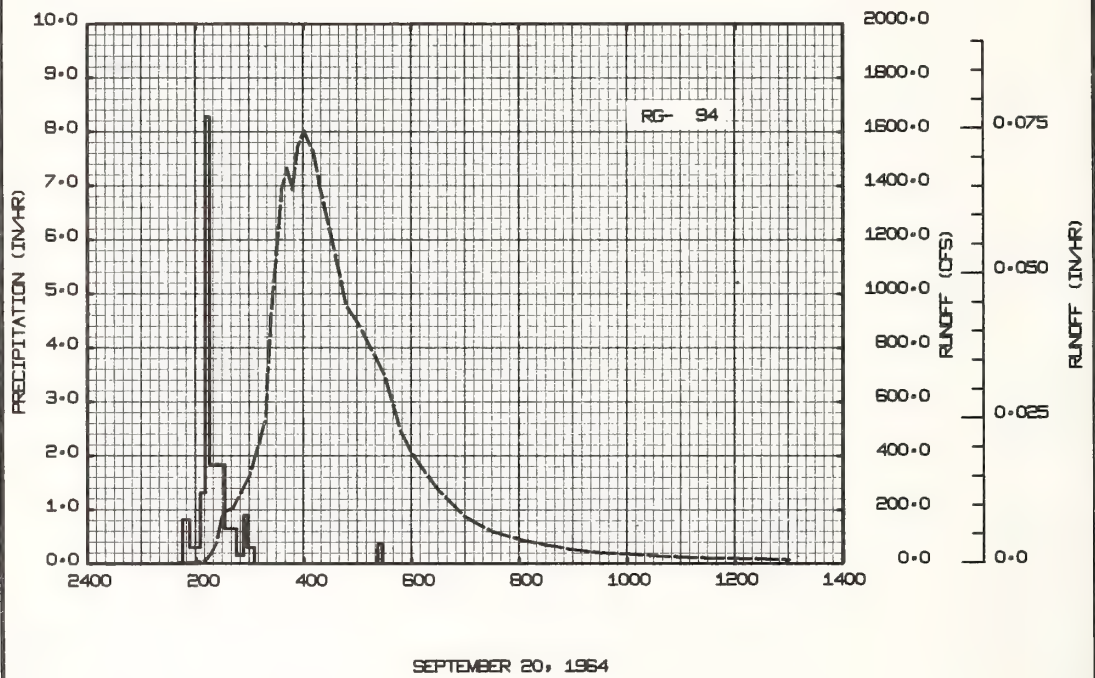
AUGUST 14-15, 1964

CHICKASHA, OKLAHOMA WATERSHED 621

1964 SELECTED RUNOFF EVENT			CHICKASHA, OKLAHOMA				621			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF			
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 20, 1964										
			9-20	RG	94		9-20	0000	.3	.0000
				0145	.00	.00		0118	.3	.0000
				0153	.83	.11		0130	.6	.0001
				0205	.30	.17		0200	4.3	.0002
				0210	1.32	.28		0212	13.3	.0003
				0215	8.28	.97		0218	36.6	.0005
				0232	1.84	1.49		0224	80.0	.0008
				0245	.65	1.63		0230	190.4	.0015
				0253	.15	1.65		0242	205.6	.0034
				0257	.90	1.71		0300	332.4	.0072
				0305	.30	1.75		0318	535.7	.0133
				0522	.00	1.75		0324	910.7	.0167
				0527	.36	1.78		0330	1183.8	.0216
								0336	1386.1	.0277
								0342	1464.4	.0343
								0348	1386.1	.0410
								0354	1545.8	.0479
								0400	1601.8	.0553
								0412	1518.3	.0698
								0418	1403.2	.0767
								0430	1214.7	.0889
								0448	956.1	.1041
								0500	891.7	.1128
								0530	700.6	.1314
								0548	501.3	.1398
								0600	410.8	.1441
								0630	273.3	.1521
								0700	174.4	.1574
								0730	119.9	.1608
								0800	90.1	.1633
								0830	70.6	.1653
								0900	52.3	.1667
								0930	40.4	.1679
								1000	35.4	.1688
								1030	30.2	.1696
								1100	24.1	.1703
								1130	20.9	.1709
								1300	15.0	.1722

Watershed conditions: The land use of this 33.3 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.17-1.

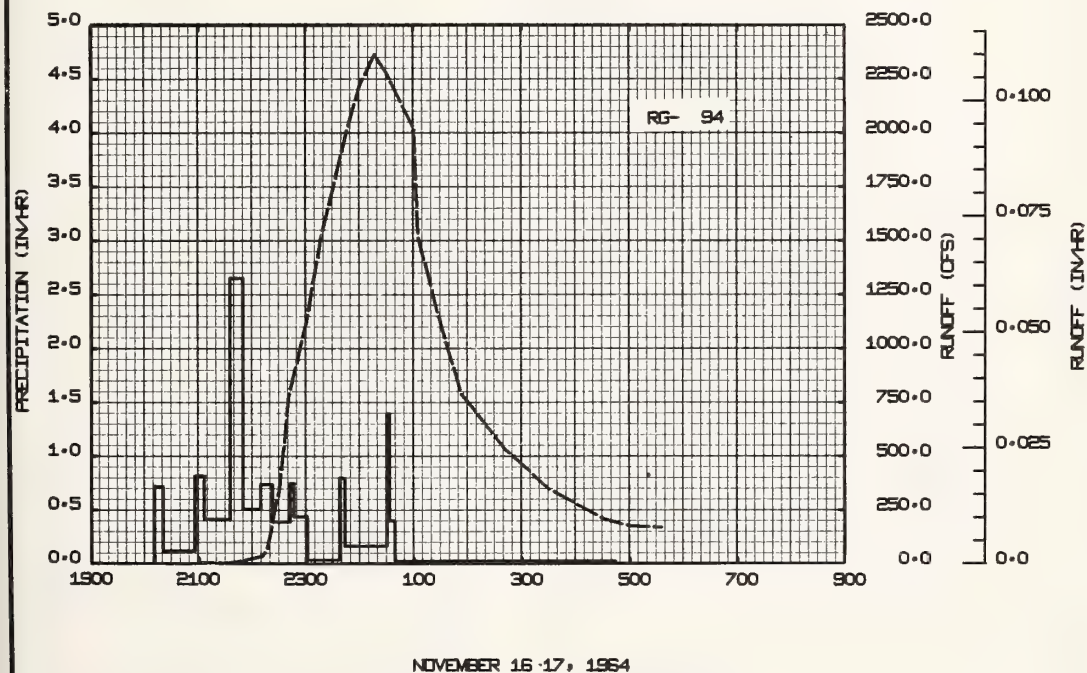
NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004654. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.17-2.



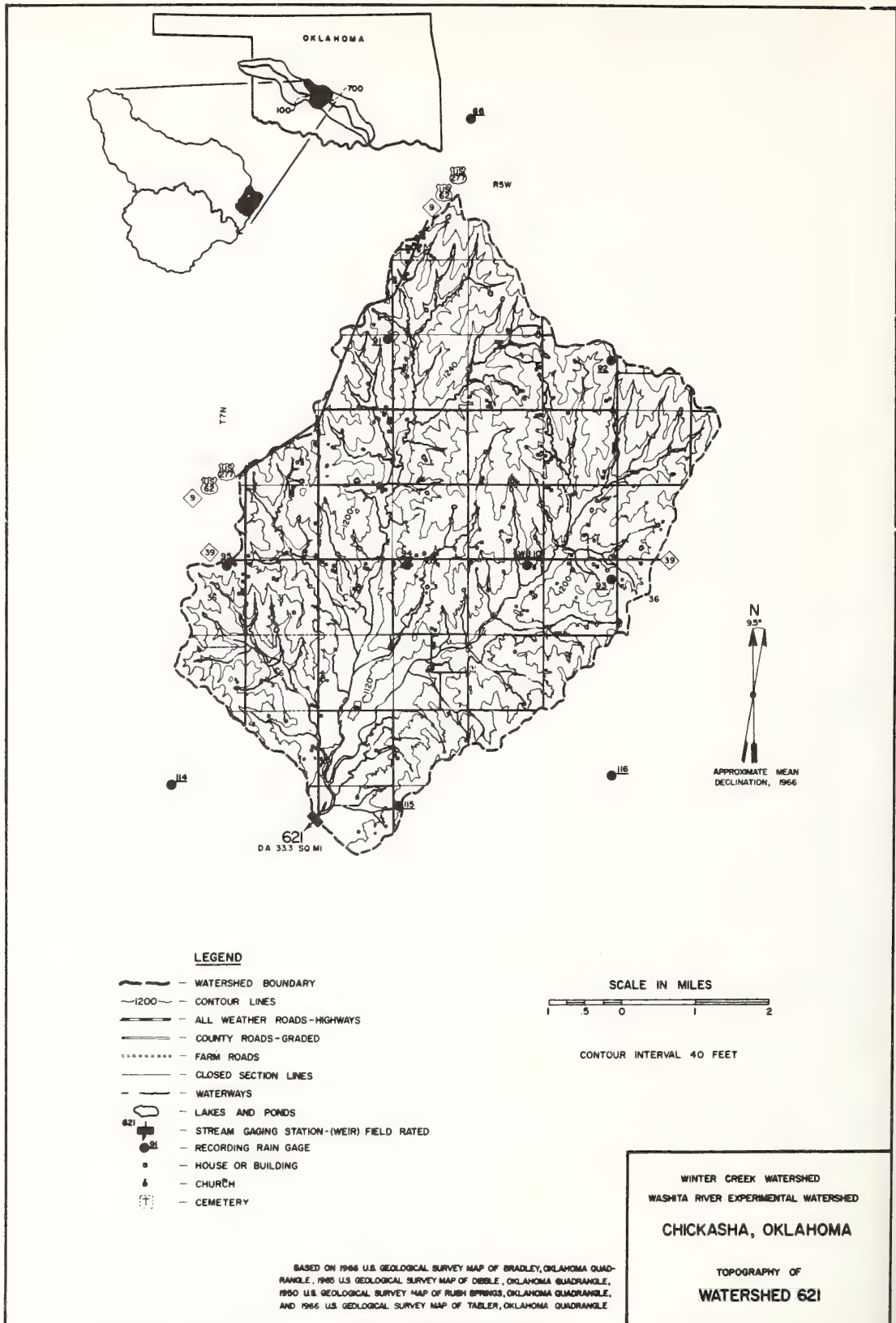
CHICKASHA, OKLAHOMA WATERSHED 621

1964			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				621			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of November 16-17, 1964														
Watershed conditions: The land use of this 33.3 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.17-1.			11-16	RG	94		11-16	2100	4.1	.0000				
				2010	.00	.00		2130	5.2	.0001				
				2020	.72	.12		2142	6.9	.0002				
				2055	.12	.19		2148	13.3	.0003				
				2106	.82	.34		2200	25.6	.0005				
				2135	.41	.54								
				2149	2.66	1.16		2212	36.0	.0009				
				2209	.51	1.33		2218	75.2	.0012				
				2222	.74	1.49		2224	210.2	.0019				
				2242	.39	1.62		2230	348.5	.0033				
				2246	.75	1.67		2236	535.7	.0054				
				2301	.44	1.78		2242	789.3	.0085				
				2337	.03	1.80		2300	1116.3	.0218				
				2343	.80	1.88		2318	1518.3	.0403				
				0030	.17	2.01		2348	2033.7	.0817				
11-17				0033	1.40	2.08	2400	2217.7	.1015					
				0039	.40	2.12	11-17	0018	2363.0	.1335				
				0444	.02	2.22		0030	2277.5	.1552				
								0100	2022.6	.2053				
								0106	1518.3	.2136				
								0130	1116.3	.2381				
								0154	789.3	.2559				
								0242	535.7	.2806				
								0330	348.5	.2971				
								0430	210.7	.3102				
								0500	176.0	.3148				
								0536	169.8	.3196				

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00004654. FOR 30-DAY ANTECEDENT P AND Q, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 69.17-2.







(Revision of Previously Published Map, P. 69.17-3, 1962)

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 121 AT GRACEMONT AREA — 131,780 ACRES (205.9 SQ. MILES) 1/							
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1965 P2/ Q	.53 .030	.73 .032	1.21 .028	2.27 .069	5.45 .258	4.86 .178	.70 .000	1.85 .001	10.38 1.299	1.47 .140	.03 .042	2.54 .086	32.02 2.162
STA AV3/ P Q	.48 .030	.85 .047	1.01 .038	1.97 .054	3.54 .192	4.99 .098	1.36 .000	2.09 .001	6.42 .650	1.60 .048	2.05 .023	1.13 .044	27.49 1.224
MEAN P 4/ 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16

ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	9-21	.0640	9-21	.0622	9-21	.1220	9-21	.318	9-21	.497	9-21	.653	9-21	.815	9-21	1.238

MAXIMUMS FOR PERIOD OF RECORD 5/																
19 63 TO 19 65	9-21 1965	.0640	9-21 1965	.0622	9-21 1965	.1220	9-21 1965	.318	9-21 1965	.497	9-21 1965	.653	9-21 1965	.815	9-21 1965	1.238

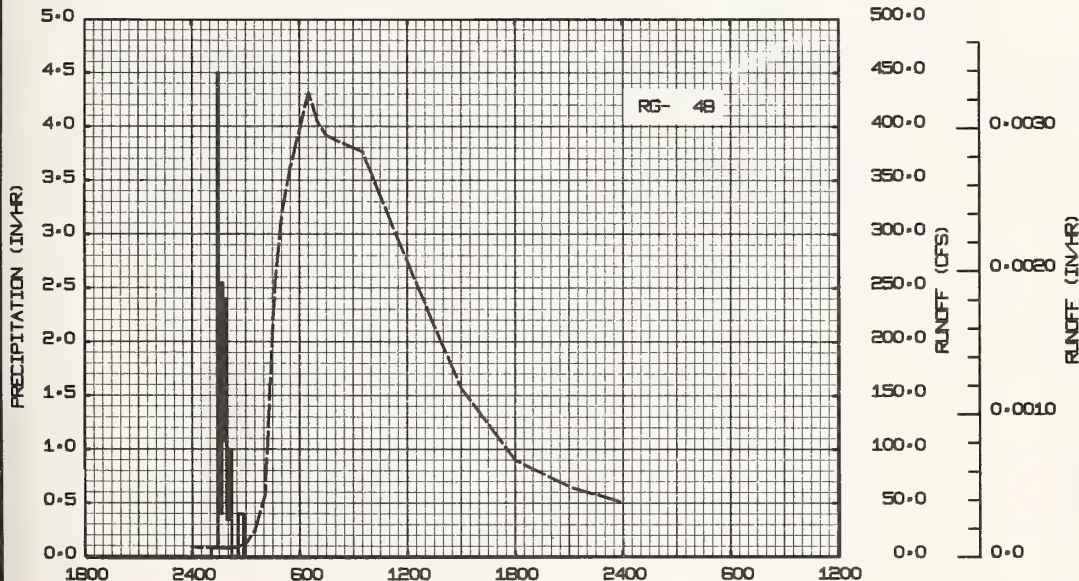
Notes: Watershed conditions same as that described in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.18-1. For Topography map, p. 69.18-4, see foregoing reference. For Geologic map, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, p. 69.7-9. For revised Composite map, see p. 69.7-21. 1/Drainage area has been changed from previous years as a result of recomputing it with newer 15-minute quadrangle maps. 2/Precipitation data obtained from a Thiessen weighted average of 32 gages on the watershed. 3/Precipitation records began Oct. 1961; runoff records began Oct. 1963. 4/Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated. 5/Period of record began Oct. 1963.

MISCELLANEOUS DATA														
<p><b>RUNOFF PEAK DATA:</b> YEAR (1965): Maximum — Sept. 21, 8,500 cfs (10.77 ft). Minimum — no flow, July 3 (3.45 ft). PERIOD OF RECORD: Maximum — Sept. 21, 1965, 8,500 cfs (10.77 ft). Minimum — no flow. PEAK DISCHARGES: (Above base flow of 900 cfs) 1965 — May 14, 1,135 cfs (8.90 ft); Sept. 21, 8,500 cfs (10.77 ft).</p>														
<p><b>DAILY TEMPERATURE:</b> See Page 69.7-3.</p>														

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 121 AT GRACEMONT						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.01	.00	.01	.00	.00	.88	.00	.00	.00	.00	.00	.02
2	.00	.00	.00	.01	.00	.01	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.06	.00	.02	.00	.00	.19	.00	.00	.00
4	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.81	.00	.27	.05	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.81	.00	.00	.00	.00
7	.00	.09	.00	.43	.00	.00	.00	.01	.00	.00	.00	.00
8	.00	.07	.00	.00	.32	.00	.00	.00	.00	.00	.01	.00
9	.07	.39	.00	.30	1.52	.00	.01	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.14	.00	.00	.12	.00	.00	.00	.09
11	.00	.16	.92	.00	.00	.12	.00	.00	.00	.00	.00	.09
12	.00	.00	.00	.00	.00	.31	.00	.00	.00	.00	.00	.02
13	.00	.00	.00	.00	2.39	.46	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.20	.01	.00	.00	.24	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.01	.00	.16	.00	.03	.00	.00
16	.00	.00	.17	.00	.00	.00	.00	.01	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.03	1.44	.00	.02
19	.00	.00	.00	.00	.00	.00	.00	.02	3.44	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.08	6.47	.00	.01	.00
21	.40	.00	.00	.00	.00	2.10	.00	.00	.06	.00	.01	.00
22	.03	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00	.00
23	.02	.01	.00	.00	.00	.06	.00	.00	.00	.00	.00	1.76
24	.00	.00	.00	.01	.09	.00	.00	.00	.03	.00	.00	.44
25	.00	.00	.02	.03	.00	.44	.35	.00	.00	.00	.00	.00
26	.00	.00	.00	.02	.24	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.28	.00	.11	.01	.00	.00	.00	.00
28	.00	.01	.10	.00	.43	.00	.18	.33	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.06	.00	.00	.00
30	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00		.02		.00	.06		.00		.09
TOTAL	.53	.73	1.21	2.27	5.45	4.86	.70	1.85	10.38	1.47	.03	2.54
STA AV	.48	.85	1.01	1.97	3.54	4.99	1.36	2.09	6.42	1.60	2.05	1.13
NOTES: YEARLY PRECIPITATION 32.02 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 32 GAGES ON THE WATERSHED.												
1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 121 AT GRACEMONT						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	4.7	2.8E	5.6	6.0	2.8	10.	1.5	.0	.0	* 89.	7.5	7.0
2	4.3	4.7E	5.1	7.0	2.1	* 53.	.1	.0	.0	73.	7.0	7.5
3	3.5	3.9E	6.0	10.	.4	29.	.0	.0	.0	60.	7.0	8.5
4	* 3.5	* 4.7	3.9	8.5	1.0	22.	.0	.0	.0	51.	7.0	9.1
5	3.9	4.7	4.7	* 49.	2.8	16.	.0	.0	.0	46.	7.0	6.5
6	3.5	3.9	4.7	* 5.6	1.8	19.	.0	.7	.0	41.	8.0	* 6.5
7	4.3	4.3	3.9	2.1	.8	* 11.	.0	1.6	.0	37.	8.5	6.0
8	8.5E	5.1	3.9	* 47.	5.6	7.5	.0	.0	.0	32.	* 9.6	6.0
9	11. E	9.6	* 3.9	3.1	* 176.	4.7	.0	.0	.0	25.	9.1	6.0
10	11. E	11.	4.3	2.4	* 35.	3.5	.0	.0	.0	22.	9.1	9.6
11	6.0E	10.	8.0	1.0	21.	2.1	.0	.0	.0	17.	8.5	11.
12	5.6E	11. E	7.0	.4	15.	3.5	.0	.0	.0	10.	9.1	11.
13	5.1	11. E	5.1	* 52.	11.	.0	.0	.0	.0	13.	8.0	9.6
14	4.3	10. E	3.1	* 77.	* 601.	9.1	.0	.0	.0	* 9.6	9.1	8.0
15	3.9	8.0	2.4	* 50.	* 132.	6.5	.0	.0	.0	9.1	8.5	9.6
16	3.1E	6.0	1.5	17.	72.	7.0	.0	.0	.0	8.0	8.0	9.6
17	5.1E	5.1	5.1	15.	47.	* 4.3	.0	.0	.0	7.5	7.0	9.6
18	* 4.7	5.6	2.4	9.6	33.	3.1	.0	.0	.0	* 29.	7.0	9.6
19	3.1	5.1	2.4	9.1	26.	2.4	.0	.0	1.6	32.	* 7.0	9.1
20	3.1	5.6	3.5	8.5	22.	1.8	.0	.0	* 73.	25.	7.0	* 8.5
21	4.7	5.1	6.5	7.5	17.	* 36.	.0	.0	* 3620.	20.	9.1	9.1
22	9.6	4.3	7.0	6.5	13.	* 259.	.0	.0	* 916.	16.	9.1	8.0
23	7.5	4.7	6.0	6.0	11.	148.	.0	.0	* 654.	14.	8.0	25.
24	6.5	1.5	6.0	5.1	11.	92.	.0	.0	* 529.	11.	7.5	75.
25	7.0	9.1	5.6	4.7	* 9.1	74.	.1	.0	362.	10.	7.0	37.
26	4.7	9.1	6.0	3.9	10.	58. E	.0	.0	270.	9.1	6.5	31.
27	3.9	5.1	5.6	5.1	8.5	38. E	.0	.0	* 210.	8.5	5.1	26.
28	3.9	5.1	5.6	3.5	26.	22. E	.0	.0	169.	* 8.0	5.1	25.
29	2.4		5.6	* 3.1	18.	8.0E	.0	.0	130.	7.5	6.0	24. E
30	4.7		* 5.6	2.4	13.	* 4.3	.0	.0	104.	7.5	7.0	19. E
31	2.8		5.6		10.		.0	.0		8.5		18. E
MEAN	5.2	6.3	4.9	13	45	32	.1	.1	235	24	7.6	15
INCHES	.029	.032	.027	.068	.252	.174	.000	.000	1.271	.137	.041	.084
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0001806. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 10.980. YEARLY MEAN DISCHARGE, 32.4 CFS. YEARLY DISCHARGE, 2.115 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. * DISCHARGE MEASUREMENTS.												

1965 SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				121			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)	
				Event of May 9, 1965							
			5- 9	RG	48		5- 9				
				0104	.00	.00		0000	9.0	.0000	
				0126	.08	.03		0218	7.9	.0001	
				0130	4.50	.33		0300	11.3	.0002	
				0134	.90	.39		0330	24.2	.0004	
				0140	.40	.43		0406	56.5	.0006	
Watershed conditions: The land use of this 206 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.18-1.				0144	2.55	.60		0430	208.2	.0010	
				0149	1.08	.69		0442	262.1	.0014	
				0157	2.40	1.01		0500	316.5	.0022	
				0204	.34	1.05		0530	362.5	.0035	
				0213	1.00	1.20		0630	431.5	.0065	
				0235	.00	1.20		0700	404.8	.0081	
				0253	.40	1.32		0730	391.3	.0097	
								0930	376.3	.0155	
								1200	274.5	.0217	
								1330	214.1	.0245	
							1500	156.5	.0266		
							1800	90.1	.0295		
							2100	65.4	.0313		
							2400	50.9	.0326		

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007525. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.18-2, THIS PUBLICATION.



MAY 8- 9, 1965

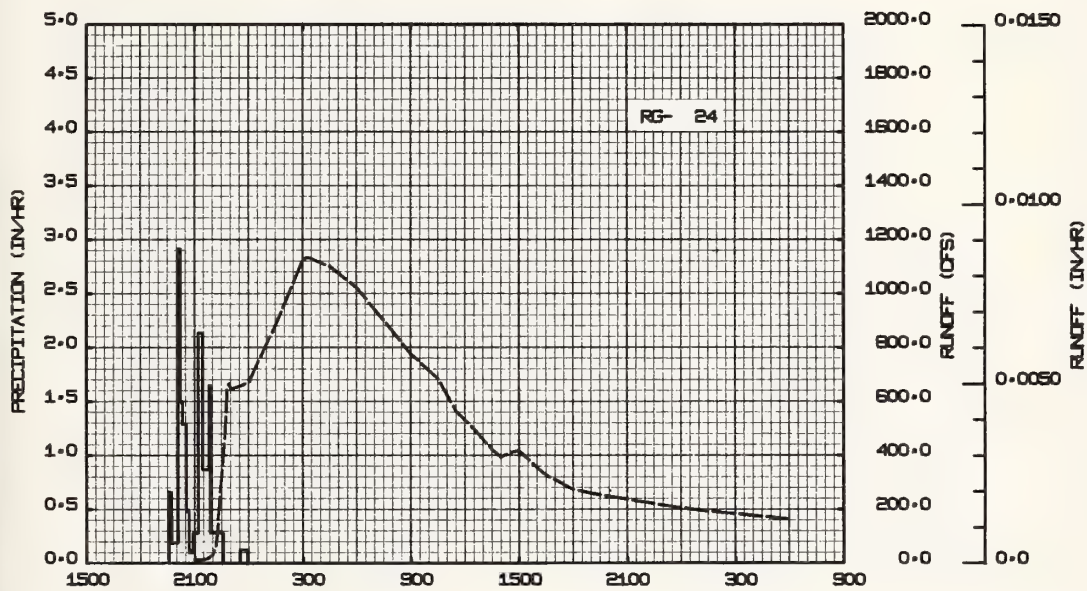
CHICKASHA, OKLAHOMA WATERSHED 121



1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				121			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
Event of May 13-15, 1965														
			5-13	RG	24		5-13							
				1933	.00	.00		2100	11.3	.0000				
				1943	.66	.11		2142	15.1	.0001				
				2005	.19	.18		2200	32.3	.0002				
				2012	2.91	.52		2212	68.1	.0003				
				2018	1.50	.67		2218	148.7	.0004				
Watershed conditions: The land use of this 206 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1963, USDA Misc. Pub. 1164, p. 69.18-1				2031	1.29	.95		2224	254.7	.0006				
				2041	.48	1.03		2230	351.8	.0009				
				2053	.10	1.05		2236	409.7	.0012				
				2110	.28	1.13		2242	497.9	.0016				
				2126	2.14	1.70		2248	644.0	.0021				
				2146	.87	1.99		2254	666.5	.0027				
				2150	1.65	2.10		2300	646.1	.0032				
				2233	.28	2.30		2342	662.9	.0067				
				2330	.00	2.30		2400	674.6	.0083				
				2354	.13	2.35	5-14	0130	890.0	.0171				
								0200	970.6	.0207				
								0300	1129.3	.0286				
								0318	1134.7	.0312				
								0430	1100.3	.0414				
								0600	1021.0	.0534				
								0730	898.7	.0643				
								0900	776.2	.0738				
								1030	685.8	.0821				
								1130	566.4	.0869				
					1230	498.8	.0909							
					1330	423.9	.0944							
					1400	393.8	.0960							
					1430	411.3	.0976							
					1500	1/ 417.9	.0992							
					1630	328.5	.1035							
					1800	274.6	.1069							
					1930	253.6	.1100							
					2400	204.8	.1178							
					0600	162.9	.1261							

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007525. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.18-2, THIS PUBLICATION. 1/ RISE AT 1500 ON MAY 14 PROBABLY CAUSED BY FAILURE OF FARM POND DAM.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007525. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.18-2, THIS PUBLICATION. 1/ RISE AT 1500 ON MAY 14 PROBABLY CAUSED BY FAILURE OF FARM POND DAM.

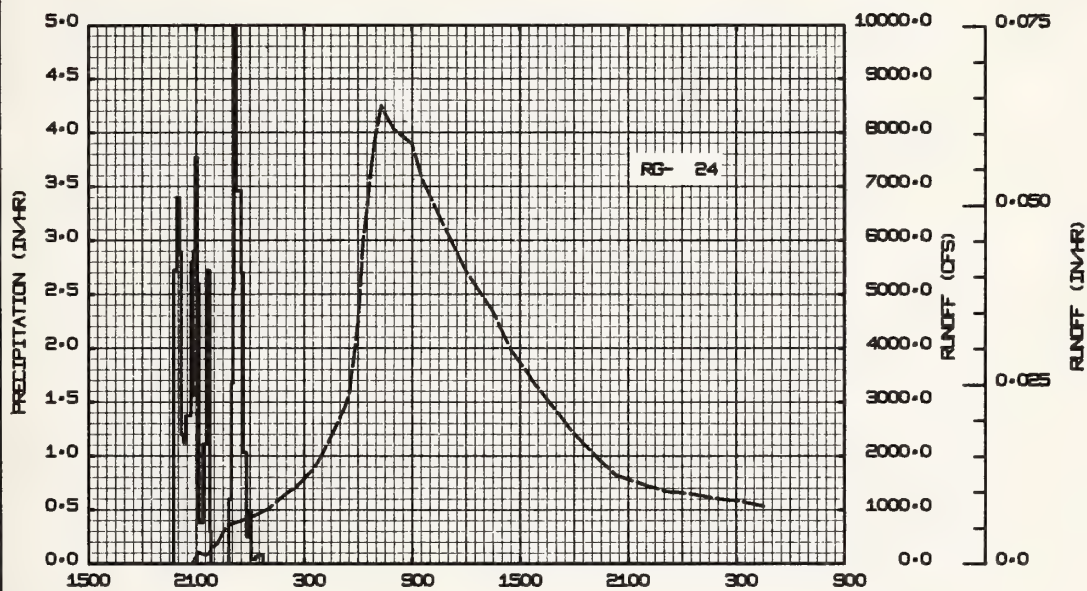


MAY 13-15, 1965

CHICKASHA, OKLAHOMA WATERSHED 121

1965 SELECTED RUNOFF EVENT						CHICKASHA, OKLAHOMA				121
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF				
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)
Event of September 20-22, 1965										
			9-20	RG	24		9-20	2048	29.3	.0000
				1942	.00	.00		2054	92.3	.0000
				1953	2.73	.50		2100	142.6	.0002
				2002	3.40	1.01		2106	207.2	.0004
				2007	2.88	1.25		2130	162.6	.0010
				2015	1.20	1.41				
				2023	1.13	1.56		2142	191.5	.0013
				2040	1.38	1.95		2200	333.3	.0019
				2043	2.80	2.09		2212	382.2	.0025
				2048	1.56	2.22		2230	607.1	.0037
				2054	2.90	2.51		2242	716.2	.0047
				2101	3.77	2.95		2330	798.8	.0093
				2105	1.80	3.07		2400	874.9	.0125
				2108	2.60	3.20	9-21	0006	878.7	.0133
				2119	.38	3.27		0100	1016.8	.0197
				2132	1.11	3.51		0200	1313.1	.0285
				2143	2.73	4.01		0230	1415.2	.0337
				2147	.30	4.03		0330	1764.0	.0457
				2246	.00	4.03		0354	1950.3	.0514
				2255	.60	4.12		0442	2489.7	.0648
				2300	1.68	4.26		0518	2921.2	.0770
				2304	2.55	4.43		0530	3163.6	.0817
				2311	4.97	5.01		0600	4503.0	.0962
				2328	3.46	5.99		0618	5988.2	.1080
				2334	2.70	6.26		0648	7500.0	.1335
				2345	1.04	6.45		0700	8000.0	.1452
			9-21	2357	.25	6.50		0718	8500.0	.1639
				0002	.48	6.54		0800	8052.7	.2075
				0017	.04	6.55		0830	7931.4	.2376
				0026	.07	6.56		0900	7792.6	.2673
				0041	.08	6.58		0936	7125.0	.3010
								1048	6268.1	.3615
								1200	5431.5	.4144
								1330	4678.0	.4715
								1430	3974.1	.5041
								1554	3311.4	.5425
								1800	2410.0	.5878
								1924	1934.6	.6107
								2018	1650.2	.6229
								2200	1445.6	.6427
								2306	1344.4	.6543
							9-22	2400	1318.9	.6634
								0224	1188.4	.6861
								0306	1169.7	.6924
								0430	1074.0	.7042

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .000007525. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.18-2, THIS PUBLICATION.



SEPTEMBER 20-22, 1965

CHICKASHA, OKLAHOMA WATERSHED 121



## CHICKASHA, OKLAHOMA WATERSHED 513 NEAR TABLER

**LOCATION:** WATERSHED — Bedingfield watershed is the west branch of East Bitter Creek 1.4 miles above East Bitter Creek gaging station, in Grady County, Okla.; tributary to East Bitter Creek; Washita River; Red River Basin.

**GAGING STATION** — SE $\frac{1}{4}$  sec. 22, T. 7 N., R. 6 W., lat. 35°3'53", long. 97°49'13".

**AREA:** 12,314 acres (19.24 sq. miles). See subarea composite map, page 69.16-8. Also, see composite map, page 69.7-21.

<b>SLOPES:</b>	Slope — Percent	0-1	1-3	3-5	5-8	8 and above	1/
	Percent of area	7	16	32	40	5	

**SOILS:** Residual, derived from fine grained sandstone and shale materials. They are deep, fine textured soils on gently rolling to rolling slopes with more shallow soils on the breaks. 1/

Soil	Per- cent of area	Topsoil			Subsoil		Substratum		Internal drainage
		Avg. depth (in.)	Structure	Permea- bility	Structure	Permea- bility	Avg. depth (in.)	Permea- bility	
Nash-Quinlan loam	45	8	Weak fine	Moderate	Granular	Moderate	30	Moderate	Medium
Zaneis-Kingfisher Renfrow silt loam	35	10	Moderate medium granular	Moderate	Moderate fine subangular blocky	Moderate	43	Moderately slow	Slow
Reinach-Port-Yahola silt loam	10	20	Moderate fine	Moderate	Moderate medium granular	Moderate	45	Moderate	Medium
Breaks - Very Shallow coarse loam	10	12	Moderate weak fine granular	Moderate	Weak fine granular	Moderate	36	Moderately slow	Medium

<b>EROSION:</b>	Erosion class	1	2	3	4	1/
	Percent of area	7	50	25	18	

<b>LAND CAPABILITY:</b>	Class	I	II	III	IV	V	VI	VII	1/
	Percent of area	5	4	41	9		35	6	

1/ Information presented for general descriptive purposes and not intended to be precise data.

**GEOLOGY:** The geologic formations and their exposed surface area in percent are: Alluvium, 10.0; and Chickasha, 90.0. The tributary contains only two geologic formations; therefore, the geology is relatively simple. The quality of surface and ground water is relatively good. See description of hydrogeology and general geology map in Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1962, USDA Misc. Pub. 1070, pp. 69.7-8 and 9. Source of data: Oklahoma Geological Survey, Norman, Okla.; Bulletins 73, 87 and Circular 61.

**SURFACE DRAINAGE:** Good; length of principal waterway 10.8 miles.

**CHARACTER OF FLOW:** Perennial.

**INSTRUMENTATION:** Precipitation: Recording weighing type gages installed on 3-mile square grid. Grid pattern oriented in north northeast direction and consists of approximately 10 gages, all in operation, with various time scales (primarily 24-hour). Runoff: Tape down from reference point on footbridge; Stevens A-35 recorder with 9.6 inches per day time scale for headwater gage. Tailwater consists of Stevens A-35 water level recorder with 9.6 inches per day time scale. Headwater and tailwater gages installed on 18-inch wells. Artificial control consisting of a broad crested "V" notch weir of reinforced concrete with 3:1 side slopes. Low flow current meter measurements made by wading. High flow current meter measurements made from footbridge upstream from weir. Measurements made periodically and during each major event.

**WATERSHED CONDITIONS:** Approximately 7% of the watershed is farmed with a rotation of small grains, alfalfa, and grain sorghums. A moldboard plow which buries the crop residue is used for land preparation by most farmers. Spring-tooth or spike-tooth harrows are used for weed control until the following crop is planted. Fertilization in the most part is based on recommendations made from a soil analysis. Approximately 20% of the flatter land has no structural conservation measures applied. Approximately 90% of the land with slopes above 1-1/2% has structural conservation measures such as terraces, farm ponds, and grassed waterways applied. There are approximately 6 farm ponds per sq. mile. The following table shows the land use:

Cultivation - 7					Percent of watershed in		
Percent of cultivated land in					Pasture or range - 85	Wooded pasture - 4	Miscellaneous - 4
Alfalfa - 35	Sowed crops - 50	Row crops - 15			Classification of range site condition based on production	Classification of range site condition based on production	Farmsteads, roads etc.
Average yield ton/ac	Wheat yield bu/ac	Oats yield bu/ac	Barley yield bu/ac	Milo yield bu/ac	Exc. - 5%    Good - 25%	Fair - 100%	
					Fair - 50%    Poor - 20%		
4.6	30	45	45	22	The general practice for good range utilization is 1 animal unit per 12 acres		

**GENERALLY REPRESENTS:** Medium size tributary watersheds of the Central Great Plains Winter Wheat and Range Region specifically the Central Rolling Red Prairies Land resource area (R-80) in Kansas, Oklahoma, and Texas.

MONTHLY PRECIPITATION AND RUNOFF (inches)						CHICKASHA, OKLAHOMA WATERSHED 513 NEAR TABLER 12,314 ACRES (19.24 SQ. MILES)										
MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL			
1965 P 1/ Q	1.56 .186	1.26 .163	1.23 .246	1.85 .256	3.08 .180	2.50 .088	.81 .009	6.99 .791	2.81 .090	1.06 .049	.05 .051	1.09 .081	24.29 2.190			
STA AV 2/ P Q																
MEAN P 3/ 65 YR	1.18	1.23	2.00	3.29	5.08	3.84	2.52	2.61	3.28	2.94	1.77	1.42	31.16			
ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
YEAR	MAXIMUM DISCHARGE		MAXIMUM VOLUME FOR SELECTED TIME INTERVAL													
			1 HOUR		2 HOURS		6 HOURS		12 HOURS		1 DAY		2 DAYS		8 DAYS	
	DATE	RATE	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME	DATE	VOLUME
1965	8-8	.1692	8-8	.1637	8-8	.3070	8-7	.562	8-7	.594	8-7	.609	8-7	.617	8-7	.618
MAXIMUMS FOR PERIOD OF RECORD																
19 65 TO 1966	8-8	.1692	8-8	.1637	8-8	.3070	8-7	.562	8-7	.594	8-7	.609	8-7	.617	8-7	.618
Notes: Watershed conditions same as that described on previous page under WATERSHED CONDITIONS. For Topography map (revised), see p. 69.16-8 and for Composite map (revised), see p. 69.7-21. 1/ Precipitation data obtained from a Thiessen weighted average of 18 gages on the watershed. 2/ Precipitation records began Jan. 1965; runoff records began Jan. 1965. 3/ Mean P based on 65-yr (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.; missing months estimated.																
MISCELLANEOUS DATA																
<u>RUNOFF PEAK DATA:</u> YEAR (1965): Maximum — Aug. 8, 2,100 cfs (9.15 ft). Minimum — July 13, no flow. PERIOD OF RECORD: Maximum — Aug. 8, 1965, 2,100 cfs (9.15 ft). Minimum — No flow. PEAK DISCHARGES: (Above base flow of 500 cfs) 1965 — Aug. 8, 2,100 cfs (9.15 ft); Aug. 28, 772 cfs (6.49 ft).  <u>DAILY TEMPERATURE:</u> See Page 69.7-3.																

1965 DAILY PRECIPITATION (inches)						CHICKASHA, OKLAHOMA WATERSHED 513 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	.28	.00	.00	.00	.00	.35	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.14	.00	.00	.00	.00	.00	.01
3	.00	.00	.00	.15	.00	.00	.00	.00	.28	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.03	.00	.00	.01	.00	.00
5	.00	.00	.00	.25	.00	.10	.00	.00	.00	.00	.04	.00
6	.00	.00	.00	.00	.00	.00	.00	1.08	.00	.00	.00	.00
7	.00	.09	.00	.04	.00	.00	.00	3.00	.00	.00	.00	.00
8	.02	.36	.00	.00	.11	.00	.00	.00	.00	.00	.00	.00
9	.44	.21	.00	.00	.27	.00	.29	.00	.00	.00	.00	.00
10	.00	.00	.00	.06	.11	.00	.00	.05	.00	.00	.00	.16
11	.00	.01	.92	.04	.00	.00	.00	.00	.00	.03	.00	.02
12	.00	.00	.12	.00	.00	.37	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.72	.41	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	1.21	.01	.00	.00	.03	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.20	.00	.15	.00	.00
16	.00	.00	.07	.00	.00	.00	.00	.03	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.34	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.10	.87	.00	.01
19	.00	.00	.00	.00	.04	.00	.00	.16	1.55	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.01	.00
21	.61	.00	.00	.00	.00	.61	.00	.00	.51	.00	.00	.00
22	.19	.00	.00	.00	.00	.16	.00	.30	.00	.00	.00	.00
23	.02	.05	.00	.00	.00	.00	.00	.05	.00	.00	.00	.18
24	.00	.00	.00	.05	.06	.25	.00	.00	.03	.00	.00	.67
25	.00	.00	.12	.01	.00	.11	.19	.00	.00	.00	.00	.00
26	.00	.00	.00	.04	.69	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.20	.00	.04	.64	.00	.00	.00	.00
28	.00	.54	.00	.00	.82	.00	.26	1.17	.00	.00	.00	.00
29	.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	-----	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00		.00	-----	.05	-----	.00	.18	-----	.00	-----	.04
TOTAL	1.56	1.26	1.23	1.85	3.08	2.50	.81	6.99	2.81	1.06	.05	1.09
STAAV	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

NOTES:

YEARLY PRECIPITATION 24.29 INCHES. PRECIPITATION VALUES ARE A THIESSEN WEIGHTED AVERAGE OF 7 GAGES ON THE WATERSHED.

1965 MEAN DAILY DISCHARGE (cfs)						CHICKASHA, OKLAHOMA WATERSHED 513 NEAR TABLER						
DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	2.1	2.8E	10	3.5	2.6	2.0	.4	.0	1.2	.6	.9	1.0
2	3.9	3.0E	3.6	3.6	2.6	4.4	.4	.0	.7	.6	.9	1.1
3	2.5	2.5E	3.0	4.2	2.6	2.1	.2	.0	.7	.7	.8	1.2
4	2.2	2.7	2.9	3.8	2.6	1.8	.2	.0	1.8	.8	.8	1.1
5	2.2	2.8	2.8	4.6	2.8	1.9	.2	.0	.6	.9	.9	1.2
6	2.2	2.9	2.7	4.5	2.8	1.7	.2	.1	.5	.8	1.0	1.1
7	2.2	3.2	2.6	3.3	2.4	1.4	.2	32	.6	.8	1.1	1.3
8	2.2	3.2	2.6	3.5	2.7	1.2	.2	286	.5	.6	1.0	1.2
9	2.1	5.9	2.6	3.2	3.5	1.1	.1	3.6	.4	.6	.9	1.2
10	2.0E	4.6	2.6	3.3	3.9	1.0	2.1	1.8	.4	.6	.9	1.3
11	3.2E	3.8	4.5	3.3	2.1	1.0	.3	1.0	.3	.4	.9	1.2
12	3.3	2.9	13	2.7	2.3	.9	.1	.7	.3	.3	.9	1.3
13	3.3	2.9	5.6	2.9	2.5	2.8	.0	.6	.3	.5	.8	1.3
14	2.8	3.0	5.6	12	9.1	2.0	.0	.5	.3	.6	.9	1.3
15	2.7	3.2	4.5	21	2.7	1.1	.0	.6	.2	.9	.9	1.2
16	2.2	2.7	4.5	5.2	2.1	1.1	.0	.7	.2	1.0	.8	1.1
17	2.2	2.8	4.2	4.5	2.2	1.0	.0	.6	.2	.8	.7	1.2
18	2.5	2.7	3.3	4.0	2.1	.8	.0	.4	.2	2.0	.8	1.3
19	2.5	2.7	3.3	3.6	2.1	.8	.0	.3	1.3	2.1	.9	1.3
20	2.5	2.7	3.9	3.8	2.2	.6	.0	.4	12	1.0	1.0	1.2
21	3.6	2.6	3.8	3.5	2.1	1.5	.0	.4	16	.8	1.0	1.2
22	11	2.4	3.8	3.3	1.9	3.4	.0	.4	1.5	.8	1.0	1.2
23	5.2	2.6E	3.5	3.3	1.9	1.1	.0	1.6	.8	.8	.9	1.3
24	3.9	2.6E	3.4	3.3	2.0	1.1	.0	.6	.8	.8	.9	4.2
25	3.9	2.6E	3.8	3.2	2.1	4.0	.0	.4	.8	.8	.9	1.9
26	3.0	2.7	3.8	3.4	4.5	1.3	.0	.2	.8	.8	.9	1.5
27	2.8	2.6	3.8	3.4	2.2	.8	.0	.2	.8	.8	.7	1.3
28	3.2	3.0	3.8	2.7	12	.6	.0	72	.8	.8	.7	1.3
29	3.0		3.4	3.2	2.9	.6	.0	1.6	.8	.8	.9	1.3
30	3.0	-----	3.3	2.7	1.9	.4	.0	.6	.8	.8	.9	1.4
31	2.7	-----	3.3	-----	1.9	-----	.0	1.5	-----	.9	-----	1.4
MEAN	3.1	3.0	4.1	4.4	3.0	1.5	.1	13	1.5	.8	.9	1.4
INCHES	.186	.163	.246	.256	.180	.088	.009	.791	.090	.049	.051	.081

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .001933. TO CONVERT DISCHARGE IN INCHES TO AC-FT, MULTIPLY BY 1.026. YEARLY MEAN DISCHARGE, 3.1 CFS. YEARLY DISCHARGE, 2.190 INCHES. MAXIMUM AND MINIMUM FLOWS EACH MONTH UNDERLINED. \* DISCHARGE MEASUREMENTS.

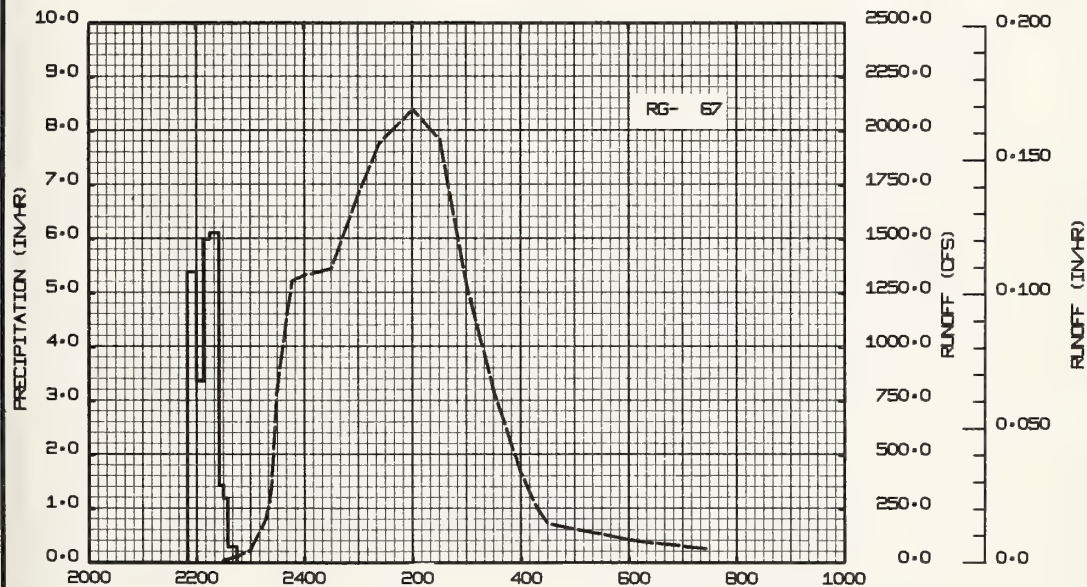


1965			SELECTED RUNOFF EVENT				CHICKASHA, OKLAHOMA				513			
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF							
DATE MO-DAY	RAINFALL (inches)	RUNOFF (inches)	DATE MO-DAY	TIME OF DAY	INTENSITY (in/hr)	ACC. (inches)	DATE MO-DAY	TIME OF DAY	RATE (cfs)	ACC. (inches)				
				Event of August 7-8, 1965										
			8- 7	RG	67		8- 7	2230	9.1	.0000				
				2150	.00	.00		2248	31.4	.0005				
				2200	5.40	.90		2300	60.6	.0013				
				2208	3.38	1.35		2318	199.2	.0045				
				2215	6.00	2.05		2324	325.6	.0066				
				2225	6.12	3.07								
				2230	1.44	3.19		2330	801.7	.0112				
				2235	1.20	3.29		2342	1152.9	.0270				
				2245	.30	3.34		2348	1308.5	.0370				
								2400	1333.2	.0583				
						8- 8	0030	1363.1	.1126					
							0100	1707.6	.1745					
							0124	1941.0	.2333					
							0200	2100.2	.3310					
							0230	1959.7	.4128					
							0300	1279.3	.4781					
							0330	790.8	.5198					
							0400	416.1	.5442					
							0418	260.4	.5524					
							0430	181.6	.5560					
							0600	106.3	.5735					

Watershed conditions: The land use of this 19.24 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see p. 69.19-1, this publication.

Watershed conditions: The land use of this 19.24 sq. mi. watershed is not monitored seasonally. For a general description of the watershed cover see p. 69.19-1, this publication.

NOTES: TO CONVERT RUNOFF IN CFS TO IN/HR, MULTIPLY BY .00008054. FOR 30-DAY ANTECEDENT P AND Q, SEE P. 69.19-3, THIS PUBLICATION. FOR ISOHYETAL MAP, SEE P. 69.19-7.



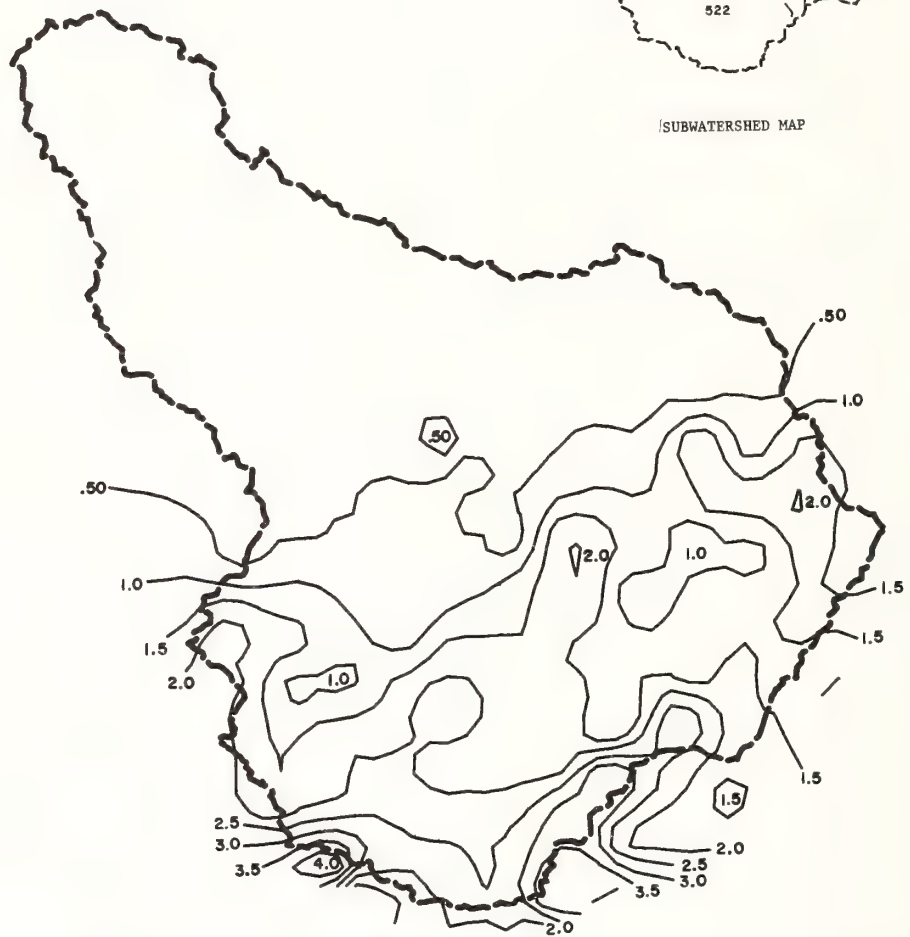
AUGUST 7- 8, 1965

CHICKASHA, OKLAHOMA WATERSHED 513





SUBWATERSHED MAP



STORM OF MAY 9, 1964

## LEGEND

- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- ISOHYETS (INCHES OF PRECIPITATION)

CHICKASHA, OKLAHOMA  
ISOHYETAL MAP OVERLYING  
ENTIRE WATERSHED



SUBWATERSHED MAP

STORM OF MAY 10, 1964

## LEGEND

- - - - - WATERSHED BOUNDARY  
 - - - - - SUBWATERSHED BOUNDARY  
 ~~~~~~ ISOHYETS (INCHES OF PRECIPITATION)

CHICKASHA, OKLAHOMA  
 ISOHYETAL MAP OVERLYING  
 ENTIRE WATERSHED



STORM OF AUGUST 7, 1965

LEGEND

- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- ISOHYETS (INCHES OF PRECIPITATION)

CHICKASHA, OKLAHOMA  
ISOHYETAL MAP OVERLYING  
ENTIRE WATERSHED

## CHICKASHA, OKLAHOMA WATERSHED C-1

**LOCATION:** Grady County, Oklahoma; SW 1/4, sec. 26, R. 7 W., T. 7 N., about 2 miles southeast of Chickasha, Oklahoma; Washita River Basin.

**AREA:** 17.8 acres.

|                |                        |            |            |            |            |           |
|----------------|------------------------|------------|------------|------------|------------|-----------|
| <b>SLOPES:</b> | <b>Slope - Percent</b> | <b>0-1</b> | <b>1-3</b> | <b>3-5</b> | <b>5-8</b> | <b>1/</b> |
|                | <b>Percent of area</b> | 100        | 0          | 0          | 0          |           |

**SOILS:** Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                      | Per-<br>cent<br>of<br>area | Topsoil                |                                                                        |                    | Subsoil                                                     |                    | Substratum                |                    | Internal<br>drainage |
|---------------------------|----------------------------|------------------------|------------------------------------------------------------------------|--------------------|-------------------------------------------------------------|--------------------|---------------------------|--------------------|----------------------|
|                           |                            | Avg.<br>depth<br>(in.) | Structure                                                              | Permea-<br>bility  | Structure                                                   | Permea-<br>bility  | Avg.<br>depth<br>to (in.) | Permea-<br>bility  |                      |
| McLain<br>silt loam       | 66                         | 14                     | Moderate<br>fine to<br>moderate<br>medium<br>granular                  | Moderate           | Weak medium<br>subangular<br>blocky                         | Moderately<br>slow | 58                        | Moderately<br>slow | Medium               |
| Reinach<br>silt loam      | 19                         | 14                     | Weak fine<br>granular                                                  | Moderate           | Weak coarse<br>granular<br>and weak<br>subangular<br>blocky | Moderate           | 40                        | Moderate           | Medium               |
| McLain silty<br>clay loam | 15                         | 20                     | Moderate<br>medium<br>and fine<br>granular and<br>subangular<br>blocky | Moderately<br>slow | Moderate<br>medium<br>subangular<br>and angular<br>blocky   | Slow               | 48                        | Moderately<br>slow | Slow                 |

|                 |                        |          |          |          |          |           |
|-----------------|------------------------|----------|----------|----------|----------|-----------|
| <b>EROSION:</b> | <b>Erosion class</b>   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>1/</b> |
|                 | <b>Percent of area</b> | 100      | 0        | 0        | 0        |           |

|                         |                        |          |           |            |           |          |           |            |           |
|-------------------------|------------------------|----------|-----------|------------|-----------|----------|-----------|------------|-----------|
| <b>LAND CAPABILITY:</b> | <b>Class</b>           | <b>I</b> | <b>II</b> | <b>III</b> | <b>IV</b> | <b>V</b> | <b>VI</b> | <b>VII</b> | <b>1/</b> |
|                         | <b>Percent of area</b> | 100      | 0         | 0          | 0         | 0        | 0         | 0          |           |

**GEOLOGY:** This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma, by Leon V. Davis, Geologist, U.S.G.S.

**SURFACE DRAINAGE:** Poor, watershed area below contour elevation 1082 is poorly drained; however, remainder of watershed is well drained. Length of principal waterway 1,100 feet. Not a natural watershed, boundaries defined by low berms.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** **Precipitation:** One recording type rain gage with 12-hour time scale. **Runoff:** Precalibrated 1.5-foot metal H-flume having entrance walls made of wood and floor made of reinforced concrete equipped with an FW-1 water level recorder with 12-hour time scale.

**WATERSHED CONDITIONS:** Cultivated, dryland agriculture. The watershed has been in cotton for several years with 42-inch width rows running parallel to the west boundary. Normal tillage operations for seedbed preparations include shredding stalk residue, disking, one-way plow, and spring-tooth harrow. Excellent efforts for grass and weed control. Cotton usually planted during latter part of June. The watershed is owned and operated by the Oklahoma Agricultural Experiment Station.

**GENERALLY REPRESENTS:** Cropland in the Central Great Plains, specifically the bottomland alluvial silt loam deposits of the Central Rolling Red Prairies land resource area (R-80).

**Notes:** 1/Information presented for general descriptive purposes and not intended to be precise data.



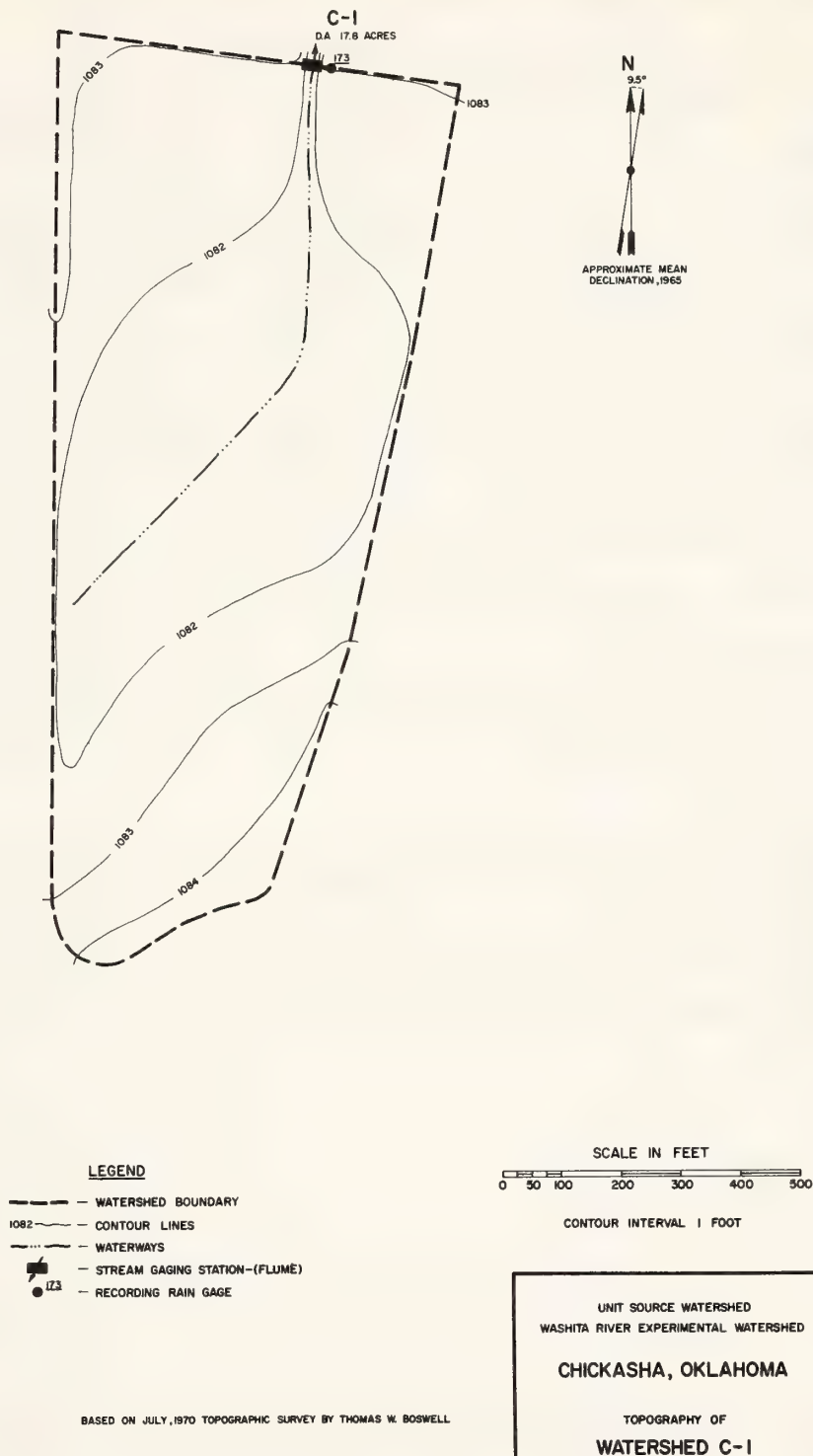
| MONTHLY PRECIPITATION AND RUNOFF (inches) |           |              |             |              |              |              | CHICKASHA, OKLAHOMA WATERSHED C-1<br>AREA - 17.8 ACRES |             |               |              |              |             |             | 69.30          |
|-------------------------------------------|-----------|--------------|-------------|--------------|--------------|--------------|--------------------------------------------------------|-------------|---------------|--------------|--------------|-------------|-------------|----------------|
| MONTH<br>YEAR                             |           | JAN          | FEB         | MAR          | APR          | MAY          | JUNE                                                   | JULY        | AUG           | SEPT         | OCT          | NOV         | DEC         | ANNUAL         |
| 1965                                      | P 1/<br>Q | 1.31<br>.000 | .93<br>.000 | 1.08<br>.000 | 1.62<br>.000 | 2.45<br>.000 | 2.76<br>.000                                           | .72<br>.000 | 8.73<br>1.287 | 3.06<br>.051 | 1.11<br>.000 | .05<br>.000 | .84<br>.000 | 24.66<br>1.338 |
| STA AVG                                   | P 2/<br>Q |              |             |              |              |              |                                                        |             |               |              |              |             |             |                |
| MEAN<br>65 YR                             | P 3/<br>Q | 1.18         | 1.23        | 2.00         | 3.29         | 5.08         | 3.84                                                   | 2.52        | 2.61          | 3.28         | 2.94         | 1.77        | 1.42        | 31.16          |

| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS |                   |      |                                           |        |         |        |         |        |          |        |       |        |        |        |        |        |
|-----------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                  | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|                                                                                                                       |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                       | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                  | 8-28              | .068 | 8-28                                      | .065   | 8-28    | .128   | 8-28    | .349   | 8-28     | .614   | 8-28  | .920   | 8-28   | 1.049  | 8-28   | 1.053  |

| MAXIMUMS FOR PERIOD OF RECORD |      |      |      |      |      |      |      |      |      |      |      |      |      |       |      |       |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
| 19 65 TO                      | 8-28 | .068 | 8-28 | .065 | 8-28 | .128 | 8-28 | .349 | 8-28 | .614 | 8-28 | .920 | 8-28 | 1.049 | 8-28 | 1.053 |
| 19 65                         | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |       | 1965 |       |

NOTES: Watershed conditions: Continuous cotton - tillage during fallow period consisted of shredding stalks, disking, chiseling, spring-tooth harrowing and spike-tooth harrowing. Cotton was planted in mid-June. Tillage during growing season consisted of rotary hoeing and cultivating. Principal drain with less than 0.05-foot grade per 100 feet was maintained during growing season by use of field cultivator. 1/ Monthly precipitation values obtained from one recording rain gage, No. 173, located near the 1.5-foot H-flume. 2/ Precipitation and runoff records began January 1, 1965, therefore no station average data are shown. 3/ Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma.

NO SELECTED RUNOFF EVENT REPORTED FOR 1965.



## CHICKASHA, OKLAHOMA WATERSHED C-2

**LOCATION:** Grady County, Oklahoma; SE 1/4, sec. 4, R. 8 W., T. 7 N., about 6 miles west and 4 miles north of Chickasha, Oklahoma; Washita River Basin.

**AREA:** 38.1 acres prior to June 15, 1964. 32.5 acres after June 15, 1964.

**SLOPES:**

| Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 |
|-----------------|-----|-----|-----|-----|
| Percent of area | 100 | 0   | 0   | 0   |

1/

**SOILS:** Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                 | Per-<br>cent<br>of<br>area | Topsoil                |                                                       |                   | Subsoil                                                     |                    | Substratum                |                    | Internal<br>drainage |
|----------------------|----------------------------|------------------------|-------------------------------------------------------|-------------------|-------------------------------------------------------------|--------------------|---------------------------|--------------------|----------------------|
|                      |                            | Avg.<br>depth<br>(in.) | Structure                                             | Permea-<br>bility | Structure                                                   | Permea-<br>bility  | Avg.<br>depth<br>to (in.) | Permea-<br>bility  |                      |
| Reinach<br>silt loam | 76                         | 14                     | Weak fine<br>granular                                 | Moderate          | Weak coarse<br>granular<br>and weak<br>subangular<br>blocky | Moderate           | 40                        | Moderate           | Medium               |
| McLain<br>silt loam  | 24                         | 14                     | Moderate<br>fine to<br>moderate<br>medium<br>granular | Moderate          | Weak medium<br>subangular<br>blocky                         | Moderately<br>slow | 58                        | Moderately<br>slow | Medium               |

**EROSION:**

| Erosion class   | 1   | 2 | 3 | 4 |
|-----------------|-----|---|---|---|
| Percent of area | 100 | 0 | 0 | 0 |

1/

**LAND CAPABILITY:**

| Class           | I   | II | III | IV | V | VI | VII |
|-----------------|-----|----|-----|----|---|----|-----|
| Percent of area | 100 | 0  | 0   | 0  | 0 | 0  | 0   |

1/

**GEOLOGY:** This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties Oklahoma, by Leon V. Davis, Geologist, U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 250 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Precipitation: One recording weighing type rain gage, No. 174, installed May 1, 1962, with 24-hour time scale, located along east side of watershed. Runoff: Precalibrated 3.0-foot H-flume installed May 1, 1962, equipped with FW-1 recorder with 24-hour time scale prior to June 22, 1965 and 12-hour time scale after June 22, 1965.

**WATERSHED CONDITIONS:** Cultivated bottomland, alfalfa planted fall of 1961 and remained in alfalfa through 1965 except 7.0 acres across the north side of the 32.5-acre field which was planted to grain sorghum, 42-inch row, in the summer of 1964. This same 7.0 acres was planted to cotton during spring of 1965.

**GENERALLY REPRESENTS:** Bottomland on the alluvial soils along the Washita River and specifically the silt loam soils of the Central Rolling Red Prairies land resource area (H-80).

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data.

| MONTHLY PRECIPITATION AND RUNOFF (inches) |      |      |      |      |      | CHICKASHA, OKLAHOMA<br>WATERSHED C-2<br>AREA - 32.5 ACRES |      |      |      |      |      |      | 69.31  |  |
|-------------------------------------------|------|------|------|------|------|-----------------------------------------------------------|------|------|------|------|------|------|--------|--|
| MONTH<br>YEAR                             | JAN  | FEB  | MAR  | APR  | MAY  | JUNE                                                      | JULY | AUG  | SEPT | OCT  | NOV  | DEC  | ANNUAL |  |
| 1962 P <sup>1/</sup>                      | --   | --   | --   | --   | 2.69 | 9.31                                                      | 1.26 | 1.00 | 5.12 | 1.92 | 1.13 | 1.08 | --     |  |
| Q                                         | --   | --   | --   | --   | .000 | .368                                                      | .000 | .000 | .043 | .000 | .000 | .000 | --     |  |
| 1963 P                                    | .26  | .38  | 1.66 | 3.24 | 1.59 | 1.90                                                      | 2.55 | .94  | 1.27 | .39  | 2.89 | .84  | 17.91  |  |
| Q                                         | .000 | .000 | .000 | .031 | .000 | .000                                                      | .000 | .000 | .000 | .000 | .000 | .000 | .031   |  |
| 1964 P                                    | .89  | 2.20 | 1.36 | .73  | 4.73 | .95                                                       | .73  | 4.85 | 4.77 | .44  | 5.36 | .64  | 27.65  |  |
| Q                                         | .000 | .000 | .000 | .000 | .007 | .000                                                      | .000 | .000 | .000 | .000 | .000 | .000 | .007   |  |
| 1965 P                                    | .76  | .72  | 1.17 | 2.01 | 3.81 | 3.16                                                      | .89  | 5.16 | 2.67 | 1.42 | .03  | 1.20 | 23.00  |  |
| Q                                         | .000 | .000 | .000 | .000 | .000 | .000                                                      | .000 | .021 | .000 | .000 | .000 | .000 | .021   |  |
| STA AVG P <sup>2/</sup>                   | .64  | 1.10 | 1.40 | 1.99 | 3.20 | 3.83                                                      | 1.36 | 2.99 | 3.46 | 1.04 | 2.35 | .94  | 24.30  |  |
| (62-65) Q <sup>3/</sup>                   | .000 | .000 | .000 | .010 | .002 | .092                                                      | .000 | .005 | .011 | .000 | .000 | .000 | .120   |  |
| MEAN P                                    |      |      |      |      |      |                                                           |      |      |      |      |      |      |        |  |
| 65 YR                                     | 1.18 | 1.23 | 2.00 | 3.29 | 5.08 | 3.84                                                      | 2.52 | 2.61 | 3.28 | 2.94 | 1.77 | 1.42 | 31.16  |  |

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

| YEAR | MAXIMUM DISCHARGE                   |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|------|-------------------------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
|      |                                     |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|      | DATE                                | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1962 | 6-1                                 | .076 | 6-1                                       | .055   | 6-1     | .103   | 6-1     | .208   | 6-1      | .246   | 6-1   | .246   | 6-1    | .246   | 6-1    | .332   |
| 1963 | (Values for 1963 were not computed) |      |                                           |        |         |        |         |        |          |        |       |        |        |        |        |        |
| 1964 | 6-10                                | .006 | 6-10                                      | .000   | 6-10    | .004   | 6-10    | .005   | 6-10     | .005   | 6-10  | .005   | 6-10   | .005   | 6-10   | .005   |
| 1965 | 8-28                                | .007 | 8-28                                      | .007   | 8-28    | .013   | 8-28    | .020   | 8-28     | .021   | 8-28  | .021   | 8-28   | .021   | 8-28   | .021   |

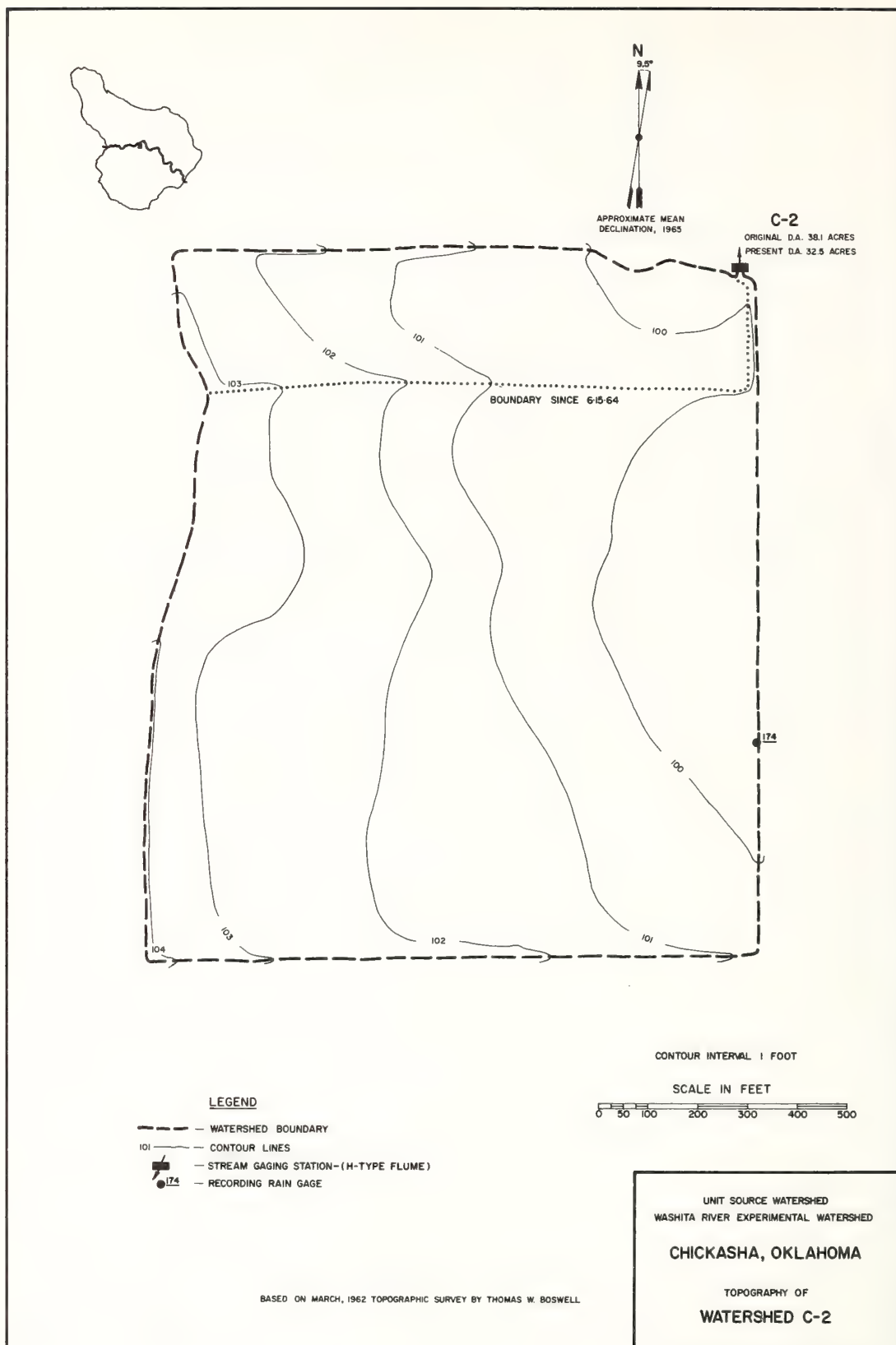
## MAXIMUMS FOR PERIOD OF RECORD

|          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 19 62 TO | 6-1  | .076 | 6-1  | .055 | 6-1  | .103 | 6-1  | .208 | 6-1  | .246 | 6-1  | .246 | 6-1  | .246 | 6-1  | .332 |
| 19 65    | 1962 |      | 1962 |      | 1962 |      | 1962 |      | 1962 |      | 1962 |      | 1962 |      | 1962 |      |

NOTES: Watershed conditions: Cropland, planted to alfalfa fall of 1961. Remained in alfalfa through 1965 except 7.0 acres across north side of 32.5-acre field which was planted to grain sorghum in summer of 1964. This same 7.0 acres was planted to cotton during spring of 1965. <sup>1/</sup> Monthly precipitation values obtained from one weighing type rain gage, No. 174. <sup>2/</sup> Precipitation and runoff records began May 1, 1962. <sup>3/</sup> Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma.

NO SELECTED RUNOFF EVENT REPORTED FOR PERIOD 1962-1965





## CHICKASHA, OKLAHOMA WATERSHED C-3

**LOCATION:** Grady County, Oklahoma; NE 1/4, sec. 35, R. 7 W., T. 7 N., about 2-1/2 miles southeast of Chickasha, Oklahoma; Washita River Basin.

**AREA:** 44.3 acres

|                |                 |     |     |     |     |    |
|----------------|-----------------|-----|-----|-----|-----|----|
| <b>SLOPES:</b> | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 1/ |
|                | Percent of area | 100 | 0   | 0   | 0   |    |

**SOILS:** Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                      | Per-<br>cent<br>of<br>area | Topsoil                |                                                                        |                    | Subsoil                                                             |                    | Substratum                |                    | Internal<br>drainage |
|---------------------------|----------------------------|------------------------|------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|--------------------|---------------------------|--------------------|----------------------|
|                           |                            | Avg.<br>depth<br>(in.) | Structure                                                              | Permea-<br>bility  | Structure                                                           | Permea-<br>bility  | Avg.<br>depth<br>to (in.) | Permea-<br>bility  |                      |
| McLain<br>silt loam       | 57                         | 14                     | Moderate<br>fine to<br>moderate<br>medium<br>granular                  | Moderate           | Weak medium<br>subangular<br>blocky                                 | Moderately<br>slow | 58                        | Moderately<br>slow | Medium               |
| McLain silty<br>clay loam | 30                         | 20                     | Moderate<br>medium<br>and fine<br>granular and<br>subangular<br>blocky | Moderately<br>slow | Moderate<br>medium<br>subangular<br>blocky and<br>angular<br>blocky | Slow               | 48                        | Moderately<br>slow | Slow                 |
| Reinach<br>silt loam      | 13                         | 14                     | Weak fine<br>granular                                                  | Moderate           | Weak coarse<br>granular and<br>weak<br>subangular<br>blocky         | Moderate           | 40                        | Moderate           | Medium               |

|                 |                 |     |   |   |   |    |
|-----------------|-----------------|-----|---|---|---|----|
| <b>EROSION:</b> | Erosion class   | 1   | 2 | 3 | 4 | 1/ |
|                 | Percent of area | 100 | 0 | 0 | 0 |    |

|                         |                 |     |    |     |    |   |    |     |    |
|-------------------------|-----------------|-----|----|-----|----|---|----|-----|----|
| <b>LAND CAPABILITY:</b> | Class           | I   | II | III | IV | V | VI | VII | 1/ |
|                         | Percent of area | 100 | 0  | 0   | 0  | 0 | 0  | 0   |    |

**GEOLOGY:** This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 2,100 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Precipitation: Two recording weighing type rain gages, one with 12-hour time scale, and one with 24-hour time scale. Runoff: 2.5-foot V-notch concrete weir having 5:1 side slopes and an FW-1 water level recorder with 12-hour time scale installed on an 18-inch diameter gauge well located 10 feet upstream and 10 feet to the left of the weir notch.

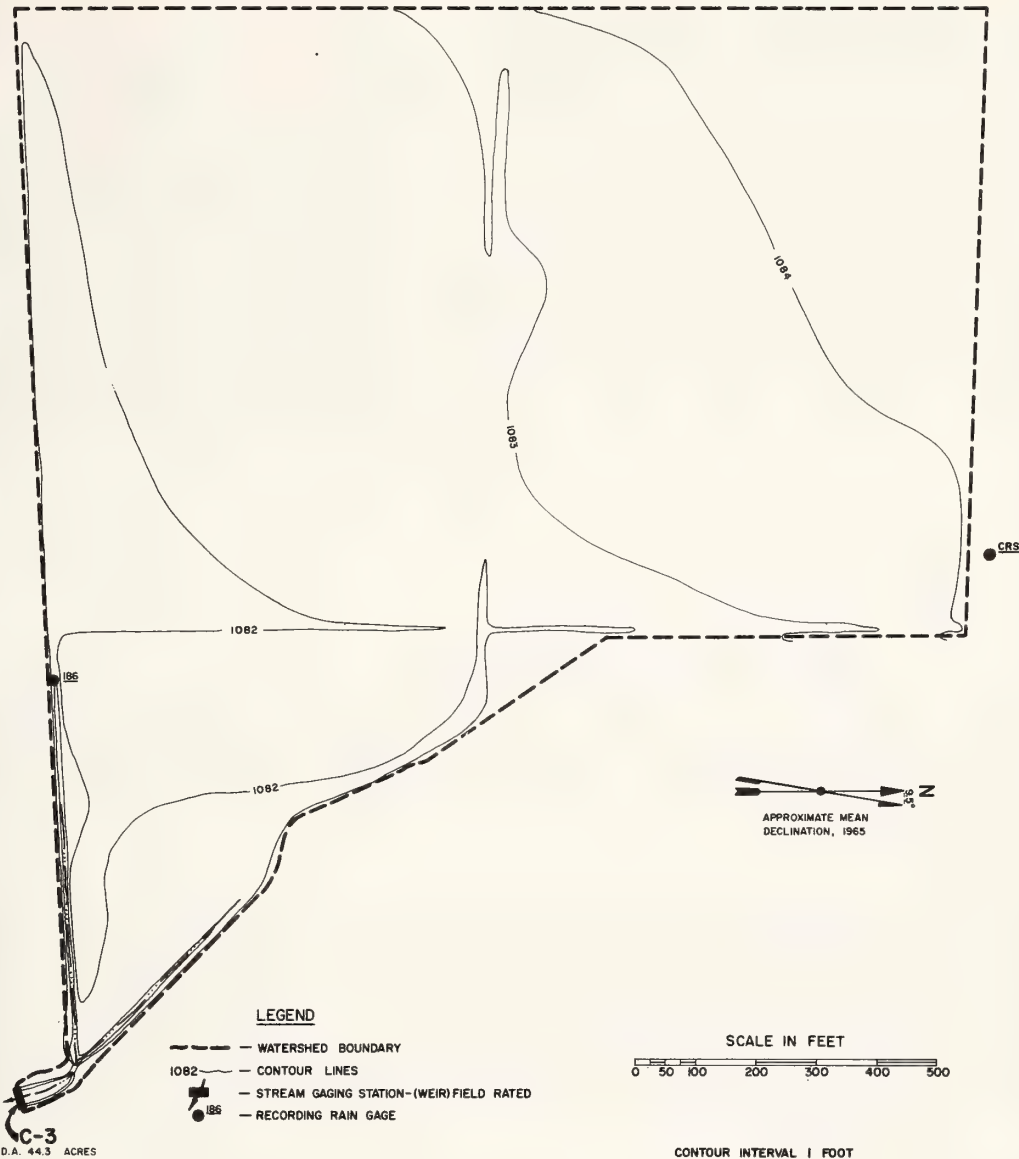
**WATERSHED CONDITIONS:** Continuous cropland, previously graded and smoothed for row irrigation. The watershed was activated in 1965 and has been in continuous irrigated cotton. Normal tillage practices are followed. This watershed is owned and operated by the Oklahoma Agricultural Experiment Station.

**GENERALLY REPRESENTS:** Cropland in the Central Great Plains, specifically the bottomland alluvial silt loam and clay loam deposits of the Central Rolling Red Prairies land resource area (H-80).

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data.

| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |      |                                           |        |              | CHICKASHA, OKLAHOMA<br>AREA - 44.3 ACRES |              |        |              |              |              |             |              | 69.32  |              |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|--------------|------------------------------------------|--------------|--------|--------------|--------------|--------------|-------------|--------------|--------|--------------|--------|
| MONTH<br>YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | JAN               | FEB  | MAR                                       | APR    | MAY          | JUNE                                     | JULY         | AUG    | SEPT         | OCT          | NOV          | DEC         | ANNUAL       |        |              |        |
| 1965 P 1/<br>Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | --                | --   | --                                        | --     | --           | --                                       | --           | --     | 2.90<br>.150 | 1.06<br>.001 | .08<br>.000  | .92<br>.000 | --<br>--     |        |              |        |
| STA AVG P 2/<br>1965 Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | --                | --   | --                                        | --     | --           | --                                       | --           | --     | --           | --           | --           | --          | --           |        |              |        |
| MEAN P 3/<br>65 YR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.18              | 1.23 | 2.00                                      | 3.29   | 5.08         | 3.84                                     | 2.52         | 2.61   | 3.28         | 2.94         | 1.77         | 1.42        | 31.16        |        |              |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      |                                           |        |              |                                          |              |        |              |              |              |             |              |        |              |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |              |                                          |              |        |              |              |              |             |              |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |      | 1 HOUR                                    |        | 2 HOURS      |                                          | 6 HOURS      |        | 12 HOURS     |              | 1 DAY        |             | 2 DAYS       |        | 8 DAYS       |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | DATE              | RATE | DATE                                      | VOLUME | DATE         | VOLUME                                   | DATE         | VOLUME | DATE         | VOLUME       | DATE         | VOLUME      | DATE         | VOLUME | DATE         | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9-21              | .020 | 9-19                                      | .019   | 9-19         | .034                                     | 9-19         | .051   | 9-19         | .051         | 9-19         | .096        | 9-19         | .144   | 9-19         | .144   |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |      |                                           |        |              |                                          |              |        |              |              |              |             |              |        |              |        |
| 19 TO<br>1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9-21<br>1965      | .020 | 9-19<br>1965                              | .019   | 9-19<br>1965 | .034                                     | 9-19<br>1965 | .051   | 9-19<br>1965 | .051         | 9-19<br>1965 | .096        | 9-19<br>1965 | .144   | 9-19<br>1965 | .144   |
| NOTES: Watershed conditions: Cropland, previously graded and smoothed for row irrigation. No record of tillage treatment available, however normal tillage operations for the area followed. No record of irrigation application. 1/ Monthly precipitation data obtained from one recording weighing type rain gage, No. 185, located at the southwest corner of watershed C-7 (69.36). 2/ Precipitation and runoff records began September 1, 1965, therefore no station average values are shown. 3/ Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma. |                   |      |                                           |        |              |                                          |              |        |              |              |              |             |              |        |              |        |

NO SELECTED RUNOFF EVENT REPORTED FOR 1965.



BASED ON DECEMBER, 1969 TOPOGRAPHIC SURVEY BY THOMAS W. BOSWELL

UNIT SOURCE WATERSHED  
WASHITA RIVER EXPERIMENTAL WATERSHED  
**CHICKASHA, OKLAHOMA**

TOPOGRAPHY OF  
**WATERSHED C-3**



## CHICKASHA, OKLAHOMA WATERSHED C-4

**LOCATION:** Grady County, Oklahoma; NE 1/4, sec. 35, R. 7 W., T. 7 N., about 2-1/2 miles southeast of Chickasha, Oklahoma; Washita River Basin.

**AREA:** 29.9 acres

|                |                 |     |     |     |     |    |
|----------------|-----------------|-----|-----|-----|-----|----|
| <b>SLOPES:</b> | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 1/ |
|                | Percent of area | 100 | 0   | 0   | 0   |    |

**SOILS:** Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                      | Per-<br>cent<br>of<br>area | Topsoil                |                                                                        |                    | Subsoil                                                     |                    | Substratum                |                    | Internal<br>drainage |
|---------------------------|----------------------------|------------------------|------------------------------------------------------------------------|--------------------|-------------------------------------------------------------|--------------------|---------------------------|--------------------|----------------------|
|                           |                            | Avg.<br>depth<br>(in.) | Structure                                                              | Permea-<br>bility  | Structure                                                   | Permea-<br>bility  | Avg.<br>depth<br>to (in.) | Permea-<br>bility  |                      |
| McLain silty<br>clay loam | 77                         | 20                     | Moderate<br>medium<br>and fine<br>granular and<br>subangular<br>blocky | Moderately<br>slow | Moderate<br>medium<br>subangular<br>and angular<br>blocky   | Slow               | 48                        | Moderately<br>slow | Slow                 |
| McLain<br>silt loam       | 20                         | 14                     | Moderate<br>fine to<br>moderate<br>medium<br>granular                  | Moderate           | Weak medium<br>subangular<br>blocky                         | Moderately<br>slow | 58                        | Moderately<br>slow | Medium               |
| Reinach<br>silt loam      | 3                          | 14                     | Weak fine<br>granular                                                  | Moderate           | Weak coarse<br>granular<br>and weak<br>subangular<br>blocky | Moderate           | 40                        | Moderate           | Medium               |

|                 |                 |     |   |   |   |    |
|-----------------|-----------------|-----|---|---|---|----|
| <b>EROSION:</b> | Erosion class   | 1   | 2 | 3 | 4 | 1/ |
|                 | Percent of area | 100 | 0 | 0 | 0 |    |

|                         |                 |     |    |     |    |   |    |     |    |
|-------------------------|-----------------|-----|----|-----|----|---|----|-----|----|
| <b>LAND CAPABILITY:</b> | Class           | I   | II | III | IV | V | VI | VII | 1/ |
|                         | Percent of area | 100 | 0  | 0   | 0  | 0 | 0  | 0   |    |

**GEOLOGY:** This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 2,400 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

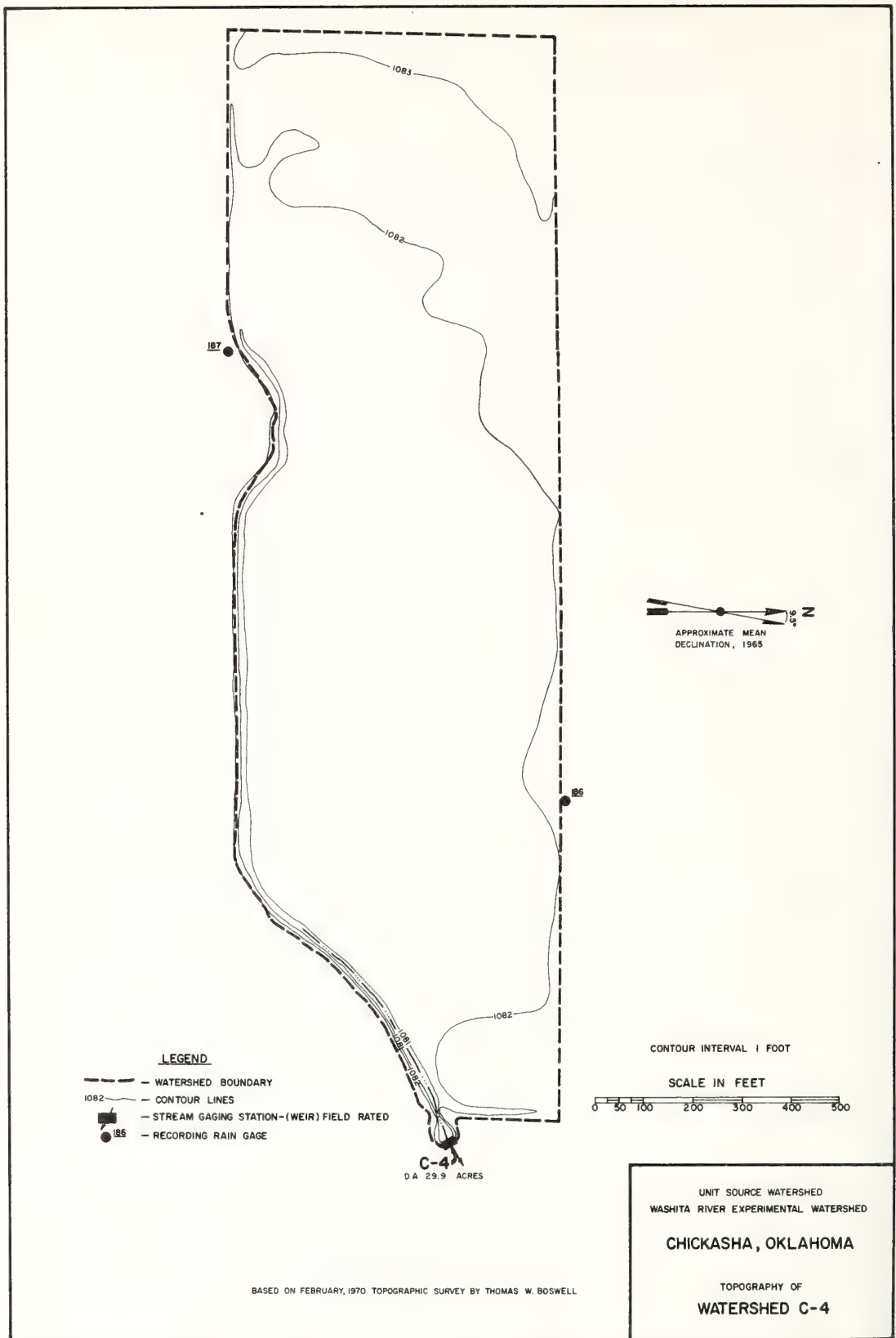
**INSTRUMENTATION:** Precipitation: Two recording weighing type rain gages, each with 12-hour time scale. Runoff: 2.0-foot V-notch concrete weir having 5:1 side slopes and an FW-1 water level recorder with 12-hour time scale installed on an 18-inch diameter gauge well located 10 feet upstream and 10 feet to the left of the weir notch.

**WATERSHED CONDITIONS:** Continuous cropland, previously graded and smoothed for row irrigation. The watershed was activated in 1965 and has been in continuous irrigated cotton. Normal tillage practices are followed. This watershed is owned and operated by the Oklahoma Agricultural Experiment Station.

**GENERALLY REPRESENTS:** Cropland in the Central Great Plains, specifically the bottomland alluvial clay loam and silt loam deposits of the Central Rolling Red Prairies land resource area (H-80).

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data.

| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |      |                                           |        |         | CHICKASHA, OKLAHOMA WATERSHED C-4<br>AREA - 29.9 ACRES |         |        |          |        |       |        |        |        |        | 69.33  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|--------------------------------------------------------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|--|
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | MONTH             | JAN  | FEB                                       | MAR    | APR     | MAY                                                    | JUNE    | JULY   | AUG      | SEPT   | OCT   | NOV    | DEC    | ANNUAL |        |        |  |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | P 1/              | --   | --                                        | --     | --      | --                                                     | --      | --     | --       | 2.90   | 1.06  | .08    | .92    | --     |        |        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Q                 | --   | --                                        | --     | --      | --                                                     | --      | --     | --       | .021   | .000  | .000   | .000   | --     |        |        |  |
| STA AVG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | P 2/              | --   | --                                        | --     | --      | --                                                     | --      | --     | --       | --     | --    | --     | --     | --     |        |        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Q                 | --   | --                                        | --     | --      | --                                                     | --      | --     | --       | --     | --    | --     | --     | --     |        |        |  |
| 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |      |                                           |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |
| MEAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | P 3/              |      |                                           |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |
| 65 YR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 1.18 | 1.23                                      | 2.00   | 3.29    | 5.08                                                   | 3.84    | 2.52   | 2.61     | 3.28   | 2.94  | 1.77   | 1.42   | 31.16  |        |        |  |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |      | 1 HOUR                                    |        | 2 HOURS |                                                        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME                                                 | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |  |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 9-19              | .004 | 9-19                                      | .004   | 9-19    | .006                                                   | 9-19    | .011   | 9-19     | .011   | 9-19  | .021   | 9-19   | .030   | 9-19   | .030   |  |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |      |                                           |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |
| 19 TO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 9-19              | .004 | 9-19                                      | .004   | 9-19    | .006                                                   | 9-19    | .011   | 9-19     | .011   | 9-19  | .021   | 9-19   | .030   | 9-19   | .030   |  |
| 19 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1965              |      | 1965                                      |        | 1965    |                                                        | 1965    |        | 1965     |        | 1965  |        | 1965   |        | 1965   |        |  |
| NOTES: Watershed conditions: Cropland, previously graded and smoothed for row irrigation. No record of tillage treatment available for 1965 and prior years, however normal conventional tillage practices were followed. No record of irrigation water application available for 1965 or prior years. 1/ Monthly precipitation data obtained from one weighing recording type rain gage, No. 185, located at the southwest corner of Watershed C-7 (69.36). 2/ Precipitation and runoff records began September 1, 1965, therefore no station average values are shown. 3/ Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma. |                   |      |                                           |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |
| NO SELECTED RUNOFF EVENT REPORTED FOR 1965.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |      |                                           |        |         |                                                        |         |        |          |        |       |        |        |        |        |        |  |



## CHICKASHA, OKLAHOMA WATERSHED C-5

LOCATION: Grady County, Oklahoma; SW 1/4, sec. 35, R. 7 W., T. 7 N., about 3 miles southeast of Chickasha, Oklahoma; Washita River Basin.

AREA: 12.8 acres.

|                |                 |     |     |     |     |    |
|----------------|-----------------|-----|-----|-----|-----|----|
| <u>SLOPES:</u> | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 1/ |
|                | Percent of area | 100 | 0   | 0   | 0   |    |

SOILS: Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                   | Per-cent of area | Topsoil          |                                                         |                 | Subsoil                                         |                 | Substratum          |                 | Internal drainage |
|------------------------|------------------|------------------|---------------------------------------------------------|-----------------|-------------------------------------------------|-----------------|---------------------|-----------------|-------------------|
|                        |                  | Avg. depth (in.) | Structure                                               | Permea-bility   | Structure                                       | Permea-bility   | Avg. depth to (in.) | Permea-bility   |                   |
| McLain silty clay loam | 42               | 20               | Moderate medium and fine granular and subangular blocky | Moderately slow | Moderate medium subangular and angular blocky   | Slow            | 48                  | Moderately slow | Slow              |
| McLain silt loam       | 34               | 14               | Moderate fine to moderate medium granular               | Moderate        | Weak medium subangular blocky                   | Moderately slow | 58                  | Moderately slow | Medium            |
| Reinach silt loam      | 24               | 14               | Weak fine granular                                      | Moderate        | Weak coarse granular and weak subangular blocky | Moderate        | 40                  | Moderate        | Medium            |

|                 |                 |     |   |   |   |    |
|-----------------|-----------------|-----|---|---|---|----|
| <u>EROSION:</u> | Erosion class   | 1   | 2 | 3 | 4 | 1/ |
|                 | Percent of area | 100 | 0 | 0 | 0 |    |

|                         |                 |     |    |     |    |   |    |     |    |
|-------------------------|-----------------|-----|----|-----|----|---|----|-----|----|
| <u>LAND CAPABILITY:</u> | Class           | I   | II | III | IV | V | VI | VII | 1/ |
|                         | Percent of area | 100 | 0  | 0   | 0  | 0 | 0  | 0   |    |

GEOLOGY: This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

SURFACE DRAINAGE: Fair, length of principal waterway 1,800 feet.

CHARACTER OF FLOW: Ephemeral, continuous.

INSTRUMENTATION: Precipitation: One recording rain gage, No. 185, with 12-hour time scale, located near the southwest corner of Watershed C-7 (69.36). Runoff: 1.5-foot V-notch concrete weir having 3:1 side slopes attached to the concrete wingwalls of a culvert. Culvert is a 50- by 33-inch corrugated arch pipe with sufficient grade to eliminate back water or submergence effect. Structure was model rated by U.S.D.A. Hydraulics Laboratory at Stillwater, Oklahoma. Water level recorded with an FW-1 recorder with 12-hour time scale installed on an 18-inch diameter gauge well located 10 feet to the right of the weir notch.

WATERSHED CONDITIONS: Continuous cropland previously graded and smoothed to drain. The principal drain is near the west side of the watershed. A man-made ridge serves as watershed boundary on all sides. The watershed was activated in May 1965. This watershed is owned and operated by the Oklahoma Agricultural Experiment Station.

GENERALLY REPRESENTS: Cropland in the Central Great Plains, specifically the bottomland alluvial clay loam and silt loam deposits of the Central Rolling Red Prairies land resource area (R-80).

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data.



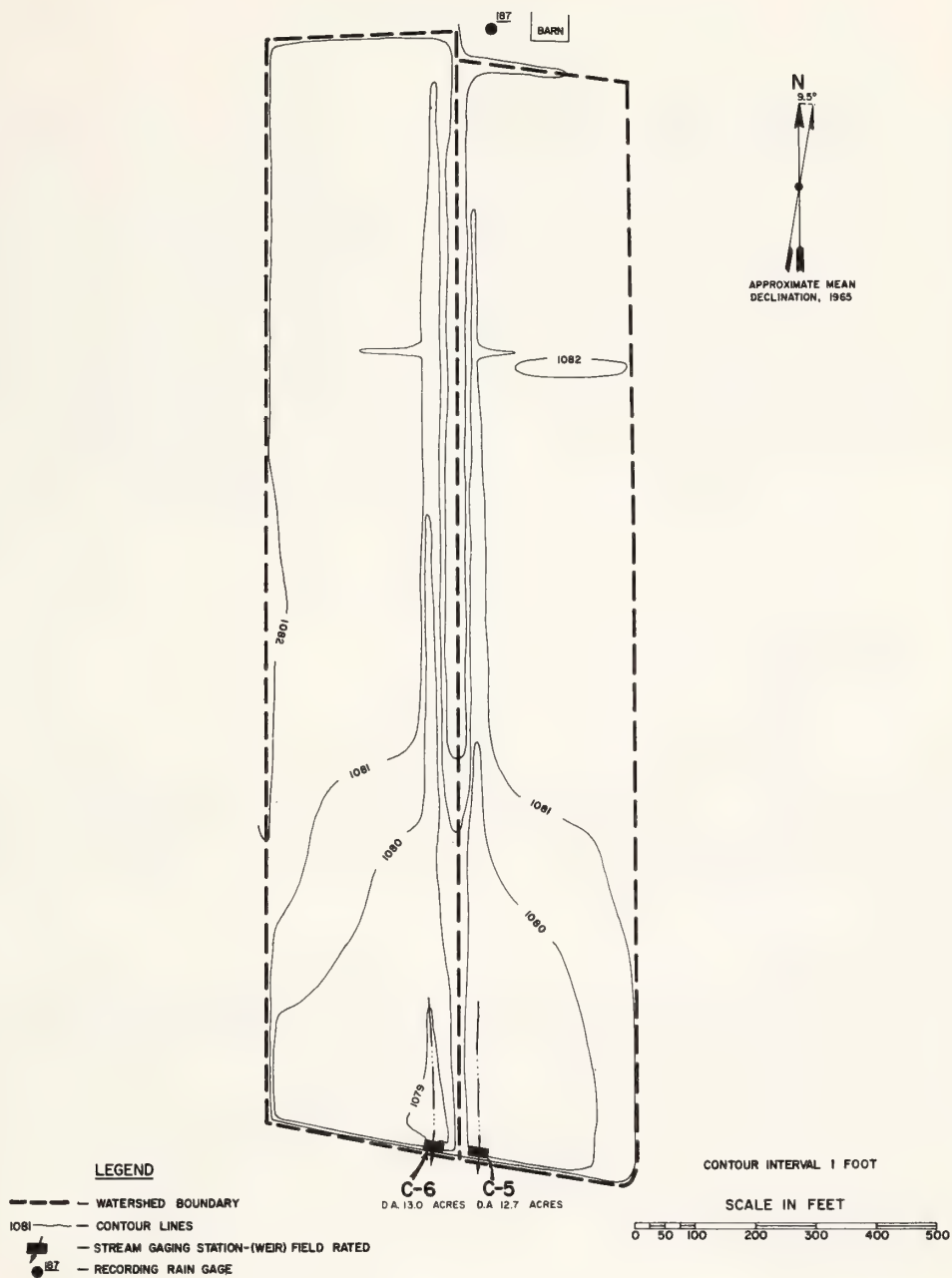
| MONTHLY PRECIPITATION AND RUNOFF (inches) |      |      |      |      |      |      | CHICKASHA, OKLAHOMA WATERSHED C-5<br>AREA - 12.8 ACRES |      |      |      |      |      |        | 69.34 |
|-------------------------------------------|------|------|------|------|------|------|--------------------------------------------------------|------|------|------|------|------|--------|-------|
| MONTH                                     | JAN  | FEB  | MAR  | APR  | MAY  | JUNE | JULY                                                   | AUG  | SEPT | OCT  | NOV  | DEC  | ANNUAL |       |
| 1965 P 1                                  |      |      |      |      | 2.57 | 2.42 | .85                                                    | 8.40 | 2.90 | 1.06 | .08  | .92  | --     |       |
| Q                                         |      |      |      |      | .000 | .000 | .000                                                   | 1.50 | .005 | .000 | .000 | .000 | --     |       |
| STA AVG P 2                               |      |      |      |      | --   | --   | --                                                     | --   | --   | --   | --   | --   | --     |       |
| 65 O                                      |      |      |      |      | --   | --   | --                                                     | --   | --   | --   | --   | --   | --     |       |
| MEAN P 3                                  |      |      |      |      |      |      |                                                        |      |      |      |      |      |        |       |
| 65 YR                                     | 1.18 | 1.23 | 2.00 | 3.29 | 5.08 | 3.84 | 2.52                                                   | 2.61 | 3.28 | 2.94 | 1.77 | 1.42 | 31.16  |       |

| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS |                   |      |                                           |        |         |        |         |        |          |        |       |        |        |        |        |        |
|-----------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                  | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|                                                                                                                       |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                       | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                  | 8-28              | .077 | 8-28                                      | .064   | 8-28    | .093   | 8-28    | .132   | 8-28     | .138   | 8-28  | .138   | 8-28   | .138   | 8-28   | .153   |

| MAXIMUMS FOR PERIOD OF RECORD |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 19 TO                         | 8-28 | .077 | 8-28 | .064 | 8-28 | .093 | 8-28 | .132 | 8-28 | .138 | 8-28 | .138 | 8-28 | .138 | 8-28 | .153 |
| 19 65                         | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      |

NOTES: Watershed conditions: This watershed previously graded to drain. Planted to wheat in fall of 1964 and harvested for grain in June 1965. Summer tillage consisted of disking, chiseling 8-10 inches deep, disking, spring-tooth harrowing and spike-tooth harrowing. Drilled to wheat in mid-October. 1/ Monthly precipitation data obtained from one weighing recording type rain gage, No. 185, located near the southwest corner of Watershed C-7 (69.36). 2/ Precipitation and runoff records began May 1, 1965, therefore no station average values are shown. 3/ Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma.

NO SELECTED RUNOFF EVENT REPORTED FOR 1965.



BASED ON DECEMBER, 1969 TOPOGRAPHIC SURVEY BY THOMAS W. BOSWELL

UNIT SOURCE WATERSHED  
WASHITA RIVER EXPERIMENTAL WATERSHED

**CHICKASHA, OKLAHOMA**

TOPOGRAPHY OF  
**WATERSHEDS C-5 & C-6**

## CHICKASHA, OKLAHOMA WATERSHED C-6

LOCATION: Grady County, Oklahoma; SW 1/4, sec. 35, R. 7 W., T. 7 N., about 3 miles southeast of Chickasha, Oklahoma; Washita River Basin.

AREA: 13.0 acres.

|                |                 |     |     |     |     |    |
|----------------|-----------------|-----|-----|-----|-----|----|
| <u>SLOPES:</u> | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 1/ |
|                | Percent of area | 100 | 0   | 0   | 0   |    |

SOILS: Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                   | Percent of area | Topsoil          |                                                         |                 | Subsoil                                         |                 | Substratum          |                 | Internal drainage |
|------------------------|-----------------|------------------|---------------------------------------------------------|-----------------|-------------------------------------------------|-----------------|---------------------|-----------------|-------------------|
|                        |                 | Avg. depth (in.) | Structure                                               | Permeability    | Structure                                       | Permeability    | Avg. depth to (in.) | Permeability    |                   |
| McLain silt loam       | 49              | 14               | Moderate fine to moderate medium granular               | Moderate        | Weak medium subangular blocky                   | Moderately slow | 58                  | Moderately slow | Medium            |
| McLain silty clay loam | 32              | 20               | Moderate medium and fine granular and subangular blocky | Moderately slow | Moderate medium subangular and angular blocky   | Slow            | 48                  | Moderately slow | Slow              |
| Reinach silt loam      | 19              | 14               | Weak fine granular                                      | Moderate        | Weak coarse granular and weak subangular blocky | Moderate        | 40                  | Moderate        | Medium            |

|                 |                 |     |   |   |   |    |
|-----------------|-----------------|-----|---|---|---|----|
| <u>EROSION:</u> | Erosion class   | 1   | 2 | 3 | 4 | 1/ |
|                 | Percent of area | 100 | 0 | 0 | 0 |    |

|                         |                 |     |    |     |    |   |    |     |    |
|-------------------------|-----------------|-----|----|-----|----|---|----|-----|----|
| <u>LAND CAPABILITY:</u> | Class           | I   | II | III | IV | V | VI | VII | 1/ |
|                         | Percent of area | 100 | 0  | 0   | 0  | 0 | 0  | 0   |    |

GEOLOGY: This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

SURFACE DRAINAGE: Fair, length of principal waterway 1,800 feet.

CHARACTER OF FLOW: Ephemeral, continuous.

INSTRUMENTATION: Precipitation: One recording rain gage, No. 185, with 12-hour time scale, located near southwest corner of Watershed C-7 (69,36). Runoff: 1.5-foot V-notch concrete weir having 3:1 side slopes attached to the concrete wingwalls of a culvert. Culvert is a 50.5- by 31.5-inch corrugated arch pipe with sufficient grade to eliminate back water or submergence effect. Structure was model rated by the U.S.D.A. Hydraulics Laboratory at Stillwater, Oklahoma. Water level recorded with an FW-1 recorder with 12-hour time scale installed on an 18-inch diameter gauge well located 10 feet to the left of the weir notch.

WATERSHED CONDITIONS: Continuous cropland, previously graded and smoothed to drain. The principal drain is near the east side of the watershed. A man-made ridge serves as watershed boundary on all sides. The watershed was activated in May 1965. This watershed is owned and operated by the Oklahoma Agricultural Experiment Station.

GENERALLY REPRESENTS: Cropland in the Central Great Plains, specifically the bottomland alluvial silt loam and clay loam deposits of the Central Rolling Red Prairies land resource area (H-80).

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data.

| MONTHLY PRECIPITATION AND RUNOFF (inches) |      |      |      |      |      | CHICKASHA, OKLAHOMA WATERSHED C-6<br>AREA - 13.0 ACRES |      |      |      |      |      |      |        | 69.35 |
|-------------------------------------------|------|------|------|------|------|--------------------------------------------------------|------|------|------|------|------|------|--------|-------|
| MONTH                                     | JAN  | FEB  | MAR  | APR  | MAY  | JUNE                                                   | JULY | AUG  | SEPT | OCT  | NOV  | DEC  | ANNUAL |       |
| 1965 P 1                                  | --   | --   | --   | --   | 2.57 | 2.42                                                   | .85  | 8.40 | 2.90 | 1.06 | .08  | .92  | --     |       |
| Q                                         | --   | --   | --   | --   | .000 | .000                                                   | .000 | .480 | .030 | .000 | .000 | .000 | --     |       |
| STA AVG P 2                               | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |       |
| 65 Q                                      | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |       |
| MEAN P 3                                  | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |       |
| 65 YR                                     | 1.18 | 1.23 | 2.00 | 3.29 | 5.08 | 3.84                                                   | 2.52 | 2.61 | 3.28 | 2.94 | 1.77 | 1.42 | 31.16  |       |

**ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS**

| YEAR | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
|      |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|      | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965 | 8-28              | .305 | 8-28                                      | .202   | 8-28    | .243   | 8-28    | .406   | 8-28     | .418   | 8-27  | .421   | 8-27   | .421   | 8-27   | .488   |

**MAXIMUMS FOR PERIOD OF RECORD**

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 19 TO        | 8-28 | .305 | 8-28 | .202 | 8-28 | .243 | 8-28 | .406 | 8-28 | .418 | 8-27 | .421 | 8-27 | .421 | 8-27 | .488 |
| 1965 TO 1965 | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      | 1965 |      |

NOTES: Watershed conditions: This watershed previously graded to drain. Planted to wheat in fall of 1964 and harvested for grain in June 1965. Summer tillage consisted of disking, chiseling 8-10 inches deep, disking, spring-tooth harrowing and spike-tooth harrowing. Drilled to wheat in mid-October. 1/ Monthly precipitation data obtained from one weighing recording type rain gage, No. 185, located near the southwest corner of Watershed C-7 (69.36). 2/ Precipitation and runoff records began May 1, 1965, therefore no station average values are shown. 3/ Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma.

NO SELECTED RUNOFF EVENT REPORTED FOR 1965. FOR CONTOUR MAP OF WATERSHED C-6 SEE PAGE 69.34-3.



## CHICKASHA, OKLAHOMA WATERSHED C-7

**LOCATION:** Grady County, Oklahoma; SW 1/4, sec. 35, R. 7 W., T. 7 N., about 3 miles southeast of Chickasha, Oklahoma; Washita River Basin.

**AREA:** 26.5 acres.

**SLOPES:**

|                 |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 |
| Percent of area | 100 | 0   | 0   | 0   |

 1/

**SOILS:** Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                      | Per-<br>cent<br>of<br>area | Topsoil                |                                                                        |                    | Subsoil                                                     |                    | Substratum                |                    | Internal<br>drainage |
|---------------------------|----------------------------|------------------------|------------------------------------------------------------------------|--------------------|-------------------------------------------------------------|--------------------|---------------------------|--------------------|----------------------|
|                           |                            | Avg.<br>depth<br>(in.) | Structure                                                              | Permea-<br>bility  | Structure                                                   | Permea-<br>bility  | Avg.<br>depth<br>to (in.) | Permea-<br>bility  |                      |
| McLain<br>silt loam       | 37                         | 14                     | Moderate<br>fine to<br>moderate<br>medium<br>granular                  | Moderate           | Weak medium<br>subangular<br>blocky                         | Moderately<br>slow | 58                        | Moderately<br>slow | Medium               |
| McLain silty<br>clay loam | 37                         | 20                     | Moderate<br>medium<br>and fine<br>granular and<br>subangular<br>blocky | Moderately<br>slow | Moderate<br>medium<br>subangular<br>and angular<br>blocky   | Slow               | 48                        | Moderately<br>slow | Slow                 |
| Reinach<br>silt loam      | 26                         | 14                     | Weak fine<br>granular                                                  | Moderate           | Weak coarse<br>granular<br>and weak<br>subangular<br>blocky | Moderate           | 40                        | Moderate           | Medium               |

**EROSION:**

|                 |     |   |   |   |
|-----------------|-----|---|---|---|
| Erosion class   | 1   | 2 | 3 | 4 |
| Percent of area | 100 | 0 | 0 | 0 |

 1/

**LAND CAPABILITY:**

|                 |     |    |     |    |   |    |     |
|-----------------|-----|----|-----|----|---|----|-----|
| Class           | I   | II | III | IV | V | VI | VII |
| Percent of area | 100 | 0  | 0   | 0  | 0 | 0  | 0   |

 1/

**GEOLOGY:** This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 1,600 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** **Precipitation:** One recording rain gage, No. 185, with 12-hour time scale, located near the southwest corner of the watershed. **Runoff:** 1.5-foot V-notch concrete weir having 3:1 side slopes attached to the concrete wing-walls of a culvert. Culvert is a 50- by 33-inch corrugated arch metal pipe with sufficient grade to eliminate back water or submergence effect. Structure was model rated by U.S.D.A. Hydraulics Laboratory at Stillwater, Oklahoma. Water level recorded with an FW-1 recorder with 12-hour time scale mounted on an 18-inch diameter gauge well located 10 feet to the right of the weir notch.

**WATERSHED CONDITIONS:** Continuous cropland, graded and smoothed to drain in March 1965. A man-made ridge serves as watershed boundary on all sides. The land is owned and operated by the Oklahoma Agricultural Experiment Station. The watershed was activated May 1, 1965.

**GENERALLY REPRESENTS:** Cropland in the Central Great Plains, specifically the bottomland alluvial clay loam and silt loam deposits of the Central Rolling Red Prairies land resource area (H-80).

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data.

| MONTHLY PRECIPITATION AND RUNOFF (inches) |       |      |      |      |      |      | CHICKASHA, OKLAHOMA WATERSHED C-7<br>AREA - 26.5 ACRES |      |      |      |      |      |      | 69.36  |
|-------------------------------------------|-------|------|------|------|------|------|--------------------------------------------------------|------|------|------|------|------|------|--------|
| YEAR                                      | MONTH | JAN  | FEB  | MAR  | APR  | MAY  | JUNE                                                   | JULY | AUG  | SEPT | OCT  | NOV  | DEC  | ANNUAL |
| 1965                                      | P 1/  | --   | --   | --   | --   | 2.57 | 2.42                                                   | .85  | 8.40 | 2.90 | 1.06 | .08  | .92  | --     |
|                                           | Q     | --   | --   | --   | --   | .003 | .007                                                   | .000 | .582 | .034 | .000 | .000 | .000 | --     |
| STA AVG                                   | P 2/  | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |
|                                           | Q     | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |
| MEAN                                      | P 3/  | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |
|                                           | Q     | --   | --   | --   | --   | --   | --                                                     | --   | --   | --   | --   | --   | --   | --     |
| 65 YR                                     |       | 1.18 | 1.23 | 2.00 | 3.29 | 5.08 | 3.84                                                   | 2.52 | 2.61 | 3.28 | 2.94 | 1.77 | 1.42 | 31.16  |

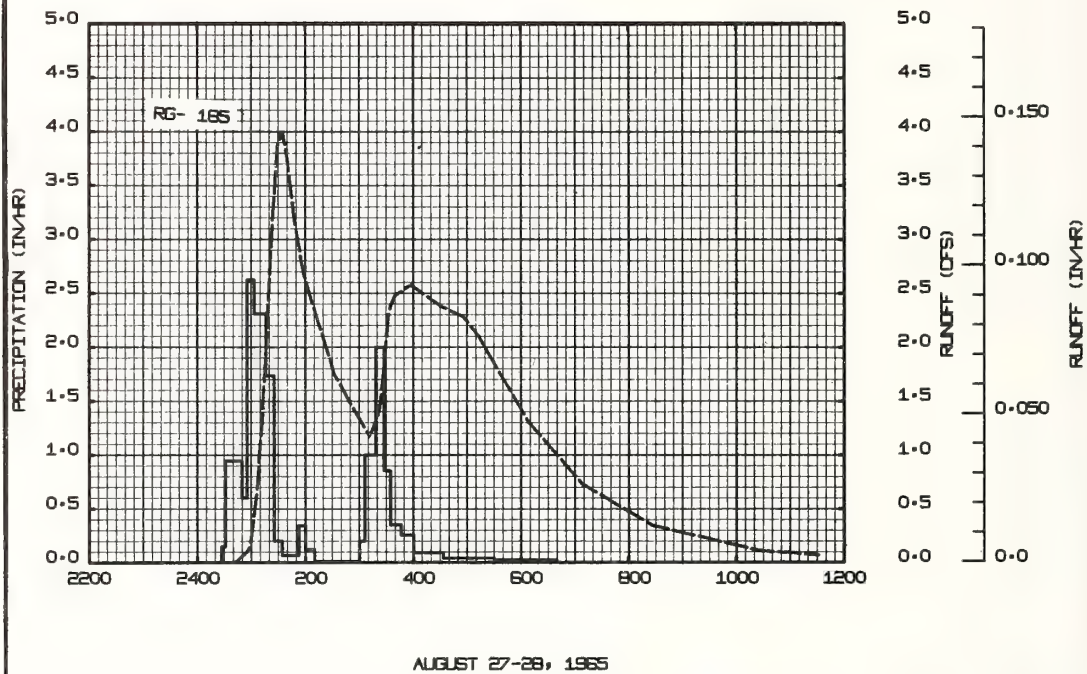
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS |                   |      |                                           |        |         |        |         |        |          |        |       |        |        |        |        |        |
|-----------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                  | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|                                                                                                                       |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                       | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                  | 8-28              | .149 | 8-28                                      | .111   | 8-28    | .174   | 8-28    | .442   | 8-28     | .494   | 8-27  | .510   | 8-27   | .510   | 8-27   | .521   |

| MAXIMUMS FOR PERIOD OF RECORD |           |      |           |      |           |      |           |      |           |      |           |      |           |      |           |      |
|-------------------------------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| 19 TO 1965                    | 8-28 1965 | .149 | 8-28 1965 | .111 | 8-28 1965 | .174 | 8-28 1965 | .442 | 8-28 1965 | .494 | 8-27 1965 | .510 | 8-27 1965 | .510 | 8-27 1965 | .521 |

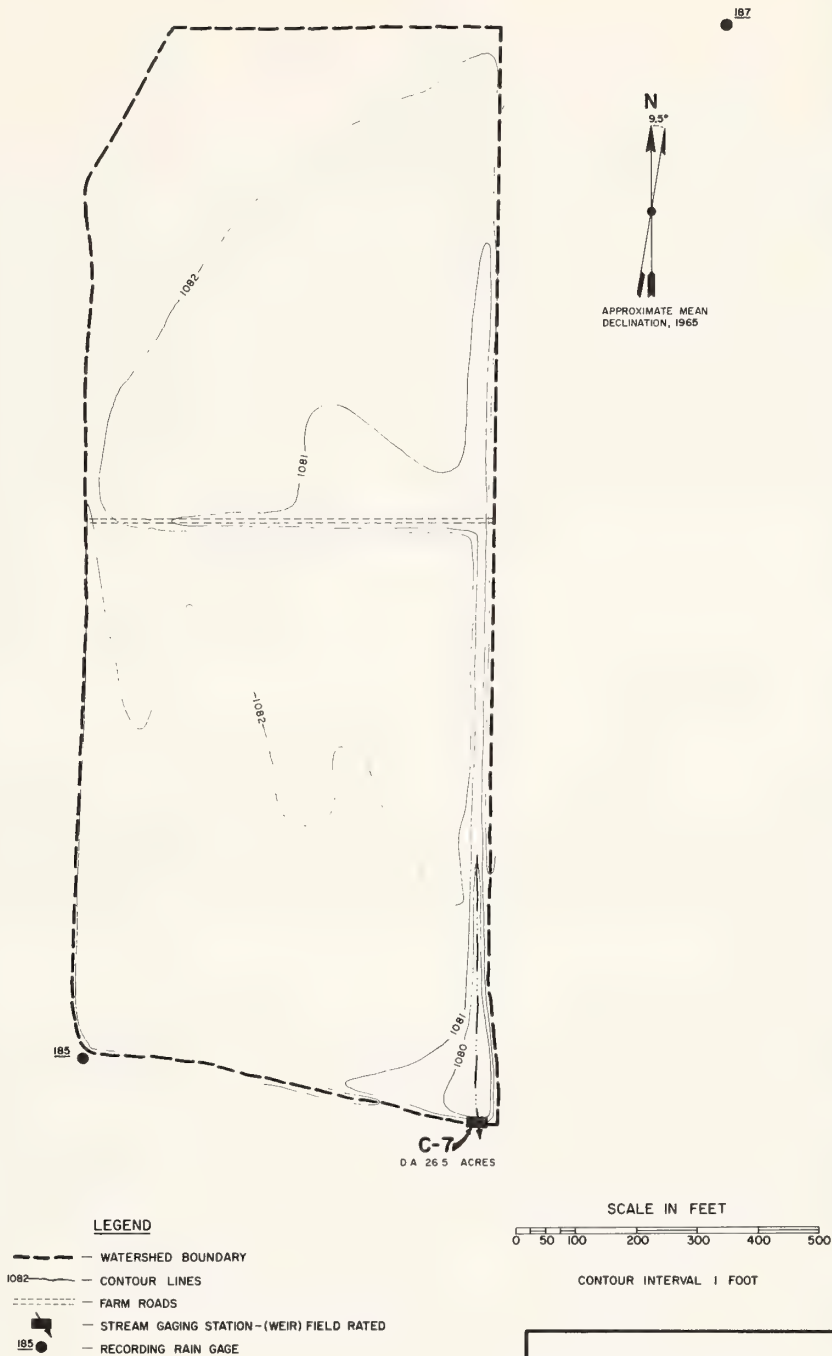
NOTES: Watershed conditions: This watershed was graded and smoothed for improved drainage in March 1965. Spring and early summer tillage consisted of disking, spring-tooth harrowing, smoothing and leveling with land leveler, and spring-tooth harrowing. Watershed was drilled to Sudan grass for hay in late June. Hay harvested in early September. During September and October watershed was tandem disked 5-6 inches deep and additional smoothing was done to improve drainage. Chiseled 8-10 inches deep during last week of October. 1/ Monthly precipitation data obtained from one weighing recording type rain gage, No. 185, located near the southwest corner of Watershed C-7 (69.36). 2/ Precipitation and runoff records began May 1, 1965, therefore no station averages are shown. 3/ Mean P based on 65-year (1901-1965) U. S. Weather Bureau record period at Chickasha, Oklahoma.

| 1965 SELECTED RUNOFF EVENT                                                                                                                                            |                   |                 | CHICKASHA, OKLAHOMA |             |                   |               | WATERSHED C-7 |             |              |               | 69.36 |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|---------------------|-------------|-------------------|---------------|---------------|-------------|--------------|---------------|-------|--|
| ANTECEDENT CONDITIONS                                                                                                                                                 |                   |                 | RAINFALL            |             |                   |               | RUNOFF        |             |              |               |       |  |
| DATE MO-DAY                                                                                                                                                           | RAINFALL (inches) | RUNOFF (inches) | DATE MO-DAY         | TIME OF DAY | INTENSITY (in/hr) | ACC. (inches) | DATE MO-DAY   | TIME OF DAY | RATE (in/hr) | ACC. (inches) |       |  |
| <u>Event of August 28, 1965</u>                                                                                                                                       |                   |                 |                     |             |                   |               |               |             |              |               |       |  |
| 7-28                                                                                                                                                                  | RG 185            |                 | 8-28                | RG          | 185               |               | 8-28          | 0039        | .00000       | .00000        |       |  |
| 8-06                                                                                                                                                                  | .47               | .000            |                     | 0027        | .00               | .00           |               | 0043        | .00022       | .00000        |       |  |
| 8-07                                                                                                                                                                  | 1.84              | .028            |                     | 0031        | .15               | .01           |               | 0055        | .00374       | .00040        |       |  |
| 8-08                                                                                                                                                                  | .71               | .022            |                     | 0050        | .95               | .31           |               | 0059        | .00579       | .00072        |       |  |
| 8-08                                                                                                                                                                  | .00               | .004            |                     | 0055        | .60               | .36           |               | 0106        | .02395       | .00245        |       |  |
| 8-10                                                                                                                                                                  | .45               | .005            |                     | 0103        | 2.62              | .71           |               |             |              |               |       |  |
| 8-14                                                                                                                                                                  | .09               | .000            |                     | 0116        | 2.31              | 1.21          |               | 0112        | .04880       | .00609        |       |  |
| 8-15                                                                                                                                                                  | .45               | .001            |                     | 0125        | 1.73              | 1.47          |               | 0120        | .09634       | .01577        |       |  |
| 8-16                                                                                                                                                                  | .23               | .000            |                     | 0134        | .20               | 1.50          |               | 0124        | .12110       | .02302        |       |  |
| 8-20                                                                                                                                                                  | .10               | .000            |                     | 0153        | .06               | 1.52          |               | 0129        | .14444       | .03408        |       |  |
| 8-22                                                                                                                                                                  | .16               | .000            |                     | 0200        | .34               | 1.56          |               | 0133        | .14938       | .04387        |       |  |
| 8-27                                                                                                                                                                  | 1.14              | .012            | 0210                | .12         | 1.58              | 0135          | .14938        | .04885      |              |               |       |  |
| <u>Watershed conditions:</u><br>100% of area cultivated.<br>Area drilled to sudan during early summer and harvested for hay in mid-August. Sudan stubble undisturbed. |                   |                 | 0300                | .01         | 1.59              | 0140          | .13954        | .06089      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0306                | .20         | 1.61              | 0149          | .11672        | .08011      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0318                | 1.00        | 1.81              | 0158          | .10023        | .09639      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0327                | 2.00        | 2.11              | 0232          | .06548        | .14334      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0334                | .86         | 2.21              | 0311          | .04390        | .17890      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0346                | .35         | 2.28              | 0315          | .04634        | .18190      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0400                | .26         | 2.34              | 0323          | .05404        | .18860      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0433                | .09         | 2.39              | 0332          | .08523        | .19904      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0530                | .04         | 2.43              | 0334          | .08886        | .20194      |              |               |       |  |
|                                                                                                                                                                       |                   |                 | 0640                | .03         | 2.46              | 0339          | .09256        | .20950      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0357          | .09634        | .23784      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0431          | .08886        | .28876      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0456          | .08523        | .32503      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0513          | .07831        | .34820      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0609          | .04880        | .40753      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0709          | .02736        | .44562      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 0827          | .01297        | .47183      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 1025          | .00420        | .48873      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 1132          | .00261        | .49254      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 1246          | .00168        | .49519      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 1554          | .00043        | .49850      |              |               |       |  |
|                                                                                                                                                                       |                   |                 |                     |             |                   | 1918          | .00000        | .49923      |              |               |       |  |

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 26.721.



CHICKASHA, OKLAHOMA WATERSHED C-7



BASED ON DECEMBER, 1969 TOPOGRAPHIC SURVEY BY THOMAS W. BOSWELL.

UNIT SOURCE WATERSHED  
WASHITA RIVER EXPERIMENTAL WATERSHED

**CHICKASHA, OKLAHOMA**

## TOPOGRAPHY OF WATERSHED C-7



## CHICKASHA, OKLAHOMA WATERSHED C-8

**LOCATION:** Grady County, Oklahoma; SW 1/4, sec. 35, R. 7 W., T. 7 N., about 3-1/2 miles southeast of Chickasha, Oklahoma; Washita River Basin.

**AREA:** 27.3 acres.

|                |                        |            |            |            |            |           |
|----------------|------------------------|------------|------------|------------|------------|-----------|
| <b>SLOPES:</b> | <b>Slope - Percent</b> | <b>0-1</b> | <b>1-3</b> | <b>3-5</b> | <b>5-8</b> | <b>1/</b> |
|                | <b>Percent of area</b> | 100        | 0          | 0          | 0          |           |

**SOILS:** Alluvial, located on Terrace deposits of Quaternary Age. Sediments from the Rocky Mountains and High Plains Tertiary deposits were laid down by the Washita River. 1/

| Soil                      | Per-<br>cent<br>of<br>area | Topsoil                |                                                                        |                    | Subsoil                                                     |                    | Substratum                |                    | Internal<br>drainage |
|---------------------------|----------------------------|------------------------|------------------------------------------------------------------------|--------------------|-------------------------------------------------------------|--------------------|---------------------------|--------------------|----------------------|
|                           |                            | Avg.<br>depth<br>(in.) | Structure                                                              | Permea-<br>bility  | Structure                                                   | Permea-<br>bility  | Avg.<br>depth<br>to (in.) | Permea-<br>bility  |                      |
| McLain<br>silt loam       | 64                         | 14                     | Moderate<br>fine to<br>moderate<br>medium<br>granular                  | Moderate           | Weak medium<br>subangular<br>blocky                         | Moderately<br>slow | 58                        | Moderately<br>slow | Medium               |
| McLain silty<br>clay loam | 28                         | 20                     | Moderate<br>medium<br>and fine<br>granular and<br>subangular<br>blocky | Moderately<br>slow | Moderate<br>medium<br>subangular<br>and angular<br>blocky   | Slow               | 48                        | Moderately<br>slow | Slow                 |
| Reinach<br>silt loam      | 8                          | 14                     | Weak fine<br>granular                                                  | Moderate           | Weak coarse<br>granular<br>and weak<br>subangular<br>blocky | Moderate           | 40                        | Moderate           | Medium               |

|                 |                        |          |          |          |          |           |
|-----------------|------------------------|----------|----------|----------|----------|-----------|
| <b>EROSION:</b> | <b>Erosion class</b>   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>1/</b> |
|                 | <b>Percent of area</b> | 100      | 0        | 0        | 0        |           |

|                         |                        |          |           |            |           |          |           |            |           |
|-------------------------|------------------------|----------|-----------|------------|-----------|----------|-----------|------------|-----------|
| <b>LAND CAPABILITY:</b> | <b>Class</b>           | <b>I</b> | <b>II</b> | <b>III</b> | <b>IV</b> | <b>V</b> | <b>VI</b> | <b>VII</b> | <b>1/</b> |
|                         | <b>Percent of area</b> | 100      | 0         | 0          | 0         | 0        | 0         | 0          |           |

**GEOLOGY:** This hydrologic group is located on Terrace deposits of Quaternary Age. The formation was laid down by the Washita River with sediments from the Rocky Mountains and High Plains Tertiary deposits. The Terrace deposits consist of clays, silts, and sands in the upper portions, and gravels in the lower part. The formation thickness ranges from a few feet to over 100 feet. The Terrace deposits yield a moderate to generous amount of ground water of fair quality. The soils mantle is from one to five feet thick. Slopes are generally less than 2 percent. Source of data: Jack Clayton, Geologist, SCS; and Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens counties, Oklahoma by Leon V. Davis, Geologist, U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 1,000 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** **Precipitation:** One recording rain gage, No. 185, with 12-hour time scale, located near the southwest corner of Watershed C-7 (69.36). **Runoff:** 1.5-foot V-notch concrete weir having 3:1 side slopes attached to the concrete wingwalls of a culvert. Culvert is a 50- by 33-inch corrugated arch metal pipe with sufficient grade to eliminate back water or submergence effect. Structure was model rated by U.S.D.A. Hydraulics Laboratory at Stillwater, Oklahoma. Water level recorded with an FW-1 recorder with 12-hour time scale mounted on an 18-inch diameter gauge well located 10 feet to the right of the weir notch.

**WATERSHED CONDITIONS:** Continuous cropland, previously graded to drain. A man-made ridge serves as watershed boundary on all sides. The land is owned and operated by the Oklahoma Agricultural Experiment Station. The watershed was activated April 1, 1965.

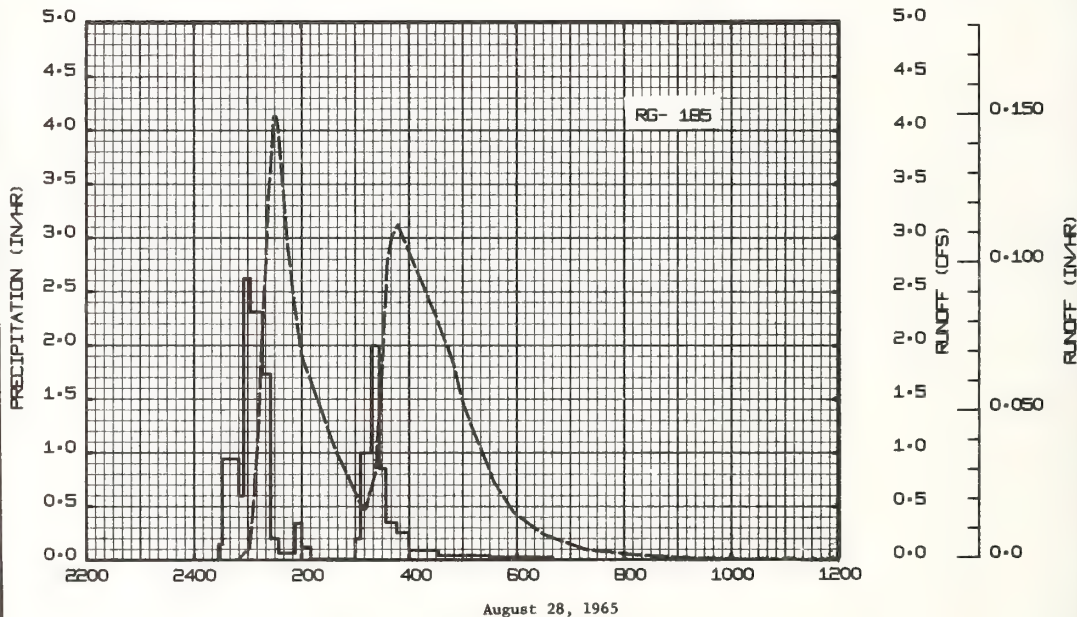
**GENERALLY REPRESENTS:** Cropland in the Central Great Plains, specifically the bottomland alluvial clay loam and silt loam deposits of the Central Rolling Red Prairies land resource area (H-80).

**Notes:** 1/ Information presented for general descriptive purposes and not intended to be precise data.

| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |      |                                           |        |         | CHICKASHA, OKLAHOMA<br>ARRA - 27.3 ACRES |         |        |          |        |       | WATERSHED C-8<br>69.37 |        |        |        |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|------------------------------------------|---------|--------|----------|--------|-------|------------------------|--------|--------|--------|--------|
| MONTH<br>YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | JAN               | FEB  | MAR                                       | APR    | MAY     | JUNE                                     | JULY    | AUG    | SEPT     | OCT    | NOV   | DEC                    | ANNUAL |        |        |        |
| 1965 P <u>1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | --                | --   | --                                        | 1.76   | 2.57    | 2.42                                     | .85     | 8.40   | 2.90     | 1.06   | .08   | .92                    | --     |        |        |        |
| Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | --                | --   | --                                        | .000   | .000    | .000                                     | .000    | .379   | .614     | .001   | .000  | .000                   | --     |        |        |        |
| STA AVG P <u>2</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | --                | --   | --                                        | --     | --      | --                                       | --      | --     | --       | --     | --    | --                     | --     |        |        |        |
| Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | --                | --   | --                                        | --     | --      | --                                       | --      | --     | --       | --     | --    | --                     | --     |        |        |        |
| MEAN P <u>3</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |      |                                           |        |         |                                          |         |        |          |        |       |                        |        |        |        |        |
| 65-YR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.18              | 1.23 | 2.00                                      | 3.29   | 5.08    | 3.84                                     | 2.52    | 2.61   | 3.28     | 2.94   | 1.77  | 1.42                   | 31.16  |        |        |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |      |                                           |        |         |                                          |         |        |          |        |       |                        |        |        |        |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |                                          |         |        |          |        |       |                        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |      | 1 HOUR                                    |        | 2 HOURS |                                          | 6 HOURS |        | 12 HOURS |        | 1 DAY |                        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME                                   | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME                 | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9-19              | .257 | 9-19                                      | .190   | 9-19    | .249                                     | 8-28    | .326   | 8-28     | .332   | 9-19  | .369                   | 9-19   | .610   | 9-17   | .614   |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |      |                                           |        |         |                                          |         |        |          |        |       |                        |        |        |        |        |
| 19 TO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9-19              | .257 | 9-19                                      | .190   | 9-19    | .249                                     | 8-28    | .326   | 8-28     | .332   | 9-19  | .369                   | 9-19   | .610   | 9-17   | .614   |
| 19 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1965              |      | 1965                                      |        | 1965    |                                          | 1965    |        | 1965     |        | 1965  |                        | 1965   |        | 1965   |        |
| NOTES: Watershed conditions: Cropland, previously graded to drain. This watershed was planted to wheat in the fall of 1964 and harvested in June of 1965. Tillage operations during summer of 1965 consisted of disking, moldboard plowing, disking and harrowing with spring-tooth and spike-tooth harrows. Watershed was drilled to alfalfa in early September 1965. <u>1/</u> Monthly precipitation data obtained from one weighing recording type rain gage, No. 185, located near the southwest corner of Watershed C-7 (69.36). <u>2/</u> Precipitation and runoff records began April 1, 1965, therefore no station averages are shown. <u>3/</u> Mean P based on 65-year (1901-65) U. S. Weather Bureau record period at Chickasha, Oklahoma. |                   |      |                                           |        |         |                                          |         |        |          |        |       |                        |        |        |        |        |

| 1965                                                                                                                                                                                                         |                      |                    | SELECTED RUNOFF EVENT |                |                      | CHICKASHA, OKLAHOMA |                |                | WATERSHED C-8   |                  |  | 69.37 |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-----------------------|----------------|----------------------|---------------------|----------------|----------------|-----------------|------------------|--|-------|--|
| ANTECEDENT CONDITIONS                                                                                                                                                                                        |                      |                    | RAINFALL              |                |                      | RUNOFF              |                |                |                 |                  |  |       |  |
| DATE<br>MO-DAY                                                                                                                                                                                               | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY        | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches)    | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(in/hr) | ACC.<br>(inches) |  |       |  |
| Event of August 28, 1965                                                                                                                                                                                     |                      |                    |                       |                |                      |                     |                |                |                 |                  |  |       |  |
|                                                                                                                                                                                                              | RG 185               |                    |                       | RG             | 185                  |                     |                |                |                 |                  |  |       |  |
| 7-28                                                                                                                                                                                                         | .47                  | .000               | 8-28                  | 0027           | .00                  | .00                 | 8-28           | 0049           | .000000         | .000000          |  |       |  |
| 8-06                                                                                                                                                                                                         | 1.84                 | T                  |                       | 0031           | .15                  | .01                 |                | 0102           | .00439          | .00047           |  |       |  |
| 8-07                                                                                                                                                                                                         | .71                  | T                  |                       | 0050           | .95                  | .31                 |                | 0105           | .01260          | .00090           |  |       |  |
| 8-10                                                                                                                                                                                                         | .45                  | .000               |                       | 0055           | .60                  | .36                 |                | 0108           | .02660          | .00188           |  |       |  |
| 8-14                                                                                                                                                                                                         | .09                  | .000               |                       | 0103           | 2.62                 | .71                 |                | 0112           | .04504          | .00427           |  |       |  |
| 8-15                                                                                                                                                                                                         | .45                  | .000               |                       | 0116           | 2.31                 | 1.21                |                | 0116           | .07613          | .00830           |  |       |  |
| 8-16                                                                                                                                                                                                         | .23                  | .000               |                       | 0125           | 1.73                 | 1.47                |                | 0119           | .09366          | .01255           |  |       |  |
| 8-20                                                                                                                                                                                                         | .10                  | .000               |                       | 0134           | .20                  | 1.50                |                | 0123           | .12205          | .01974           |  |       |  |
| 8-22                                                                                                                                                                                                         | .16                  | .000               |                       | 0153           | .06                  | 1.52                |                | 0129           | .15016          | .03335           |  |       |  |
| 8-27                                                                                                                                                                                                         | 1.14                 | .004               |                       | 0200           | .34                  | 1.56                |                | 0132           | .15016          | .04086           |  |       |  |
| Watershed conditions:<br>100% of area cultivated.<br>Planted to wheat fall of<br>1964, harvested June 1965.<br>Area freshly plowed,<br>chiseled, harrowed and<br>smoothed, ready for<br>planting to alfalfa. |                      |                    |                       | 0210           | .12                  | 1.58                |                | 0134           | .14521          | .04578           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0300           | .01                  | 1.59                |                | 0145           | .10526          | .06874           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0306           | .20                  | 1.61                |                | 0152           | .08638          | .07992           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0318           | 1.00                 | 1.81                |                | 0200           | .06970          | .09033           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0327           | 2.00                 | 2.11                |                | 0237           | .03821          | .12360           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0334           | .86                  | 2.21                |                | 0309           | .01745          | .13845           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0346           | .35                  | 2.28                |                | 0312           | .01745          | .13932           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0400           | .26                  | 2.34                |                | 0323           | .03019          | .14369           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0433           | .09                  | 2.39                |                | 0330           | .06366          | .14916           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0530           | .04                  | 2.43                |                | 0336           | .10129          | .15741           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0640           | .03                  | 2.46                |                | 0341           | .10933          | .16619           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       |                |                      |                     |                | 0348           | .11347          | .17918           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       |                |                      |                     |                | 0430           | .08286          | .24790           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       |                |                      |                     |                | 0450           | .06664          | .27282           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       |                |                      |                     |                | 0501           | .05253          | .28375           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       |                |                      |                     |                | 0535           | .02660          | .30617           |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0557           | .01615               | .31401              |                |                |                 |                  |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0630           | .00869               | .32084              |                |                |                 |                  |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0716           | .00363               | .32557              |                |                |                 |                  |  |       |  |
|                                                                                                                                                                                                              |                      |                    |                       | 0816 1/2       | .00163               | .32821              |                |                |                 |                  |  |       |  |

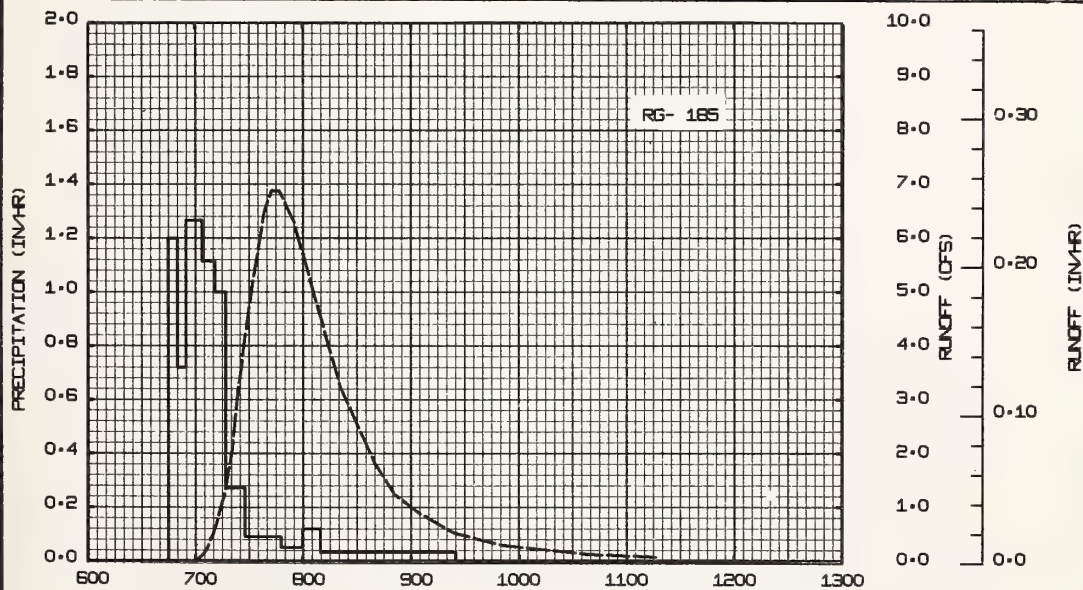
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 27.528. 1/ RUNOFF ENDED 1053 WITH ACCUMULATED TOTAL OF .33185 INCH.



CHICKASHA, OKLAHOMA WATERSHED C-8

| 1965                                                                                                                                                                                                                         |                      |                    | SELECTED RUNOFF EVENT |                |                      |                  | CHICKASHA, OKLAHOMA |                |                 | WATERSHED C-8    |  | 69.37 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-----------------------|----------------|----------------------|------------------|---------------------|----------------|-----------------|------------------|--|-------|
| ANTECEDENT CONDITIONS                                                                                                                                                                                                        |                      |                    | RAINFALL              |                |                      |                  | RUNOFF              |                |                 |                  |  |       |
| DATE<br>MO-DAY                                                                                                                                                                                                               | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY        | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY      | TIME<br>OF DAY | RATE<br>(in/hr) | ACC.<br>(inches) |  |       |
| Event of September 19, 1965                                                                                                                                                                                                  |                      |                    |                       |                |                      |                  |                     |                |                 |                  |  |       |
|                                                                                                                                                                                                                              | RG 185               |                    |                       | RG             | 185                  |                  |                     |                |                 |                  |  |       |
| 8-20                                                                                                                                                                                                                         | .10                  | .000               | 9-19                  | 0645           | .00                  | .00              | 9-19                | 0659           | .00000          | .00000           |  |       |
| 8-22                                                                                                                                                                                                                         | .16                  | .000               |                       | 0650           | 1.20                 | .10              |                     | 0700           | .00052          | .00000           |  |       |
| 8-27                                                                                                                                                                                                                         | 1.14                 | .004               |                       | 0655           | .72                  | .16              |                     | 0702           | .00192          | .00004           |  |       |
| 8-28                                                                                                                                                                                                                         | 2.46                 | .332               |                       | 0704           | 1.27                 | .35              |                     | 0705           | .00563          | .00023           |  |       |
| 8-31                                                                                                                                                                                                                         | .77                  | .040               |                       | 0711           | 1.11                 | .48              |                     | 0707           | .00869          | .00047           |  |       |
| 9-03                                                                                                                                                                                                                         | .26                  | .000               |                       | 0717           | 1.00                 | .58              |                     | 0709           | .01615          | .00088           |  |       |
| 9-17                                                                                                                                                                                                                         | .70                  | .002               |                       | 0728           | .27                  | .63              |                     | 0710           | .01745          | .00116           |  |       |
| 9-18                                                                                                                                                                                                                         | .20                  | .000               |                       | 0748           | .09                  | .66              |                     | 0713           | .03019          | .00235           |  |       |
| Watershed conditions:<br>100% of area cultivated.<br>Summer fallowed during<br>summer of 1965. Recent<br>tillage consisted of<br>spring-tooth harrowing -<br>field was smooth and<br>firm, ready for planting<br>to alfalfa. |                      |                    |                       | 0800           | .05                  | .67              |                     | 0717           | .04744          | .00494           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       | 0810           | .12                  | .69              |                     | 0721           | .07613          | .00906           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       | 0925           | .03                  | .73              |                     | 0724           | .11347          | .01380           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0729           | .16034          | .02521           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0733           | .19335          | .03700           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0739           | .23673          | .05851           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0743           | .25015          | .07474           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0747           | .25015          | .09141           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0755           | .23019          | .12343           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0821           | .11773          | .19882           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0840           | .06664          | .22801           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  |                     | 0851           | .04504          | .23825           |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 0905                | .03209         | .24725          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 0924                | .01881         | .25531          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 0951                | .01054         | .26192          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1039                | .00439         | .26789          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1118                | .00254         | .27015          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1200                | .00163         | .27161          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1244                | .00081         | .27251          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1344                | .00052         | .27318          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1444                | .00029         | .27359          |                  |  |       |
|                                                                                                                                                                                                                              |                      |                    |                       |                |                      |                  | 1608 1/2            | .00014         | .27390          |                  |  |       |

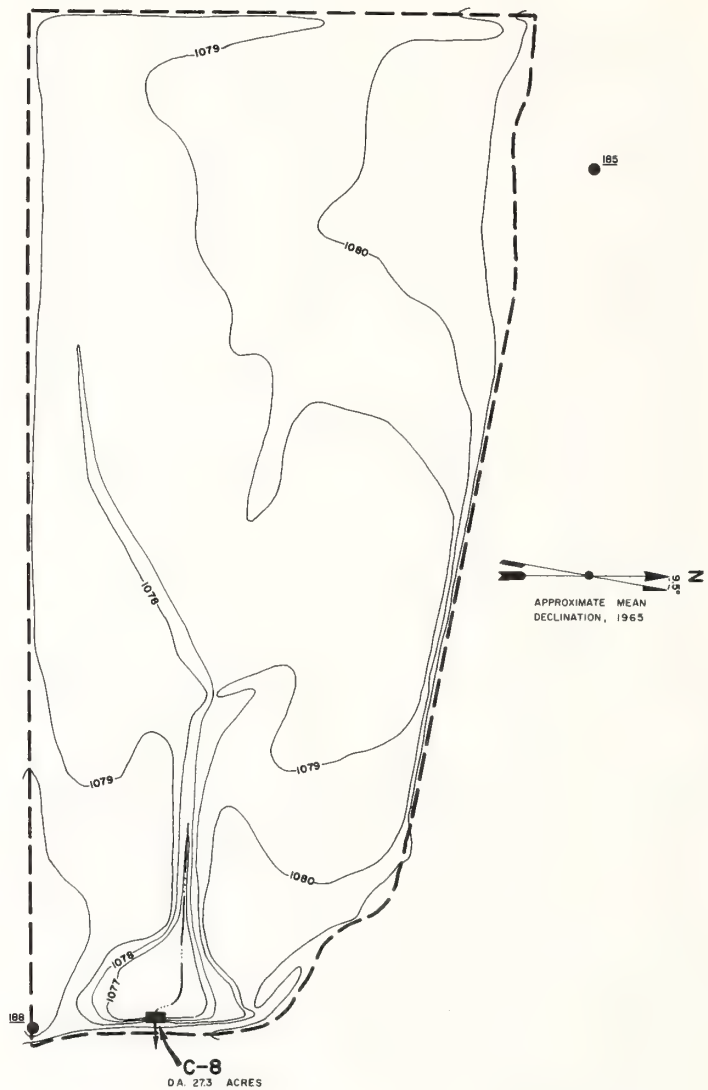
NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 27.528. 1/ RUNOFF ENDED 1922 WITH ACCUMULATED TOTAL OF .27536 INCH.



September 19, 1965

CHICKASHA, OKLAHOMA WATERSHED C-8





### LEGEND

- WATERSHED BOUNDARY
- 1080 --- CONTOUR LINES
- STREAM GAGING STATION-(WEIR) FIELD RATED
- 185 --- RECORDING RAIN GAGE

CONTOUR INTERVAL 1 FOOT

SCALE IN FEET



BASED ON FEBRUARY, 1970 TOPOGRAPHIC SURVEY BY THOMAS W. BOSWELL

UNIT SOURCE WATERSHED  
WASHITA RIVER EXPERIMENTAL WATERSHED

CHICKASHA, OKLAHOMA

TOPOGRAPHY OF  
WATERSHED C-8

## CHICKASHA, OKLAHOMA WATERSHED R-1

**LOCATION:** Caddo County, Oklahoma; NE $\frac{1}{2}$  sec. 21, T. 8 N., R. 9 W., about 4-3/4 miles north and 3-1/4 miles west of Verden, Oklahoma; Washita River Basin.

**AREA:** 17.8 acres.

|                |                 |     |     |     |     |    |    |
|----------------|-----------------|-----|-----|-----|-----|----|----|
| <b>SLOPES:</b> | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 8+ | 1/ |
|                | Percent of area | 0   | 5   | 10  | 30  | 55 |    |

**SOILS:** Residual, derived from the Marlow Formation of the Permian Age. 1/

| Soil                       | Per-<br>cent<br>of<br>area | Topsoil                |                                            | Subsoil           |                                        | Substratum        |                          | Internal<br>drainage |
|----------------------------|----------------------------|------------------------|--------------------------------------------|-------------------|----------------------------------------|-------------------|--------------------------|----------------------|
|                            |                            | Avg.<br>depth<br>(in.) | Structure                                  | Permea-<br>bility | Structure                              | Permea-<br>bility | Avg.<br>depth<br>to(in.) | Permea-<br>bility    |
| Noble fine<br>sandy loam   | 43                         | 13                     | Moderate<br>medium<br>and fine<br>granular | Moderate          | Moderate to<br>weak medium<br>granular | Moderate          | 65                       | Moderately<br>rapid  |
| Dill fine<br>sandy loam    | 37                         | 8                      | Moderate<br>medium<br>granular             | Moderate          | Weak coarse<br>granular                | Moderate          | 30                       | Moderately<br>slow   |
| Darnell fine<br>sandy loam | 20                         | 8                      | Weak fine<br>granular                      | Moderate          | Weak fine<br>granular                  | Moderate          | 15                       | Moderately<br>slow   |

|                 |                 |    |    |   |   |    |
|-----------------|-----------------|----|----|---|---|----|
| <b>EROSION:</b> | Erosion class   | 1  | 2  | 3 | 4 | 1/ |
|                 | Percent of area | 85 | 15 | 0 | 0 |    |

|                         |                 |   |    |     |    |   |    |     |    |
|-------------------------|-----------------|---|----|-----|----|---|----|-----|----|
| <b>LAND CAPABILITY:</b> | Class           | I | II | III | IV | V | VI | VII | 1/ |
|                         | Percent of area | 0 | 5  | 10  | 20 | 0 | 65 | 0   |    |

**GEOLOGY:** This watershed is located on the Marlow Formation of Permian Age. The Marlow consists of shales, sandstone, and minor dolomite beds. The major portion of the formation is made up of even-bedded, ferrogenous, gypsiferous sandy shales. It is approximately 120 feet thick with a regional north-south strike and a gentle west dip. The soil mantle varies in depth from a few inches to two or three feet. The Marlow yields very little water to wells in this area and is highly mineralized. Source of data: Jack Clayton, Geologist, SCS; Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens Counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 200 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Precipitation: One recording weighing type gage with 24-hour time scale. Runoff: FW-1 water level recorder with 12-hour time scale installed on 16-inch pipe located on face of farm pond dam.

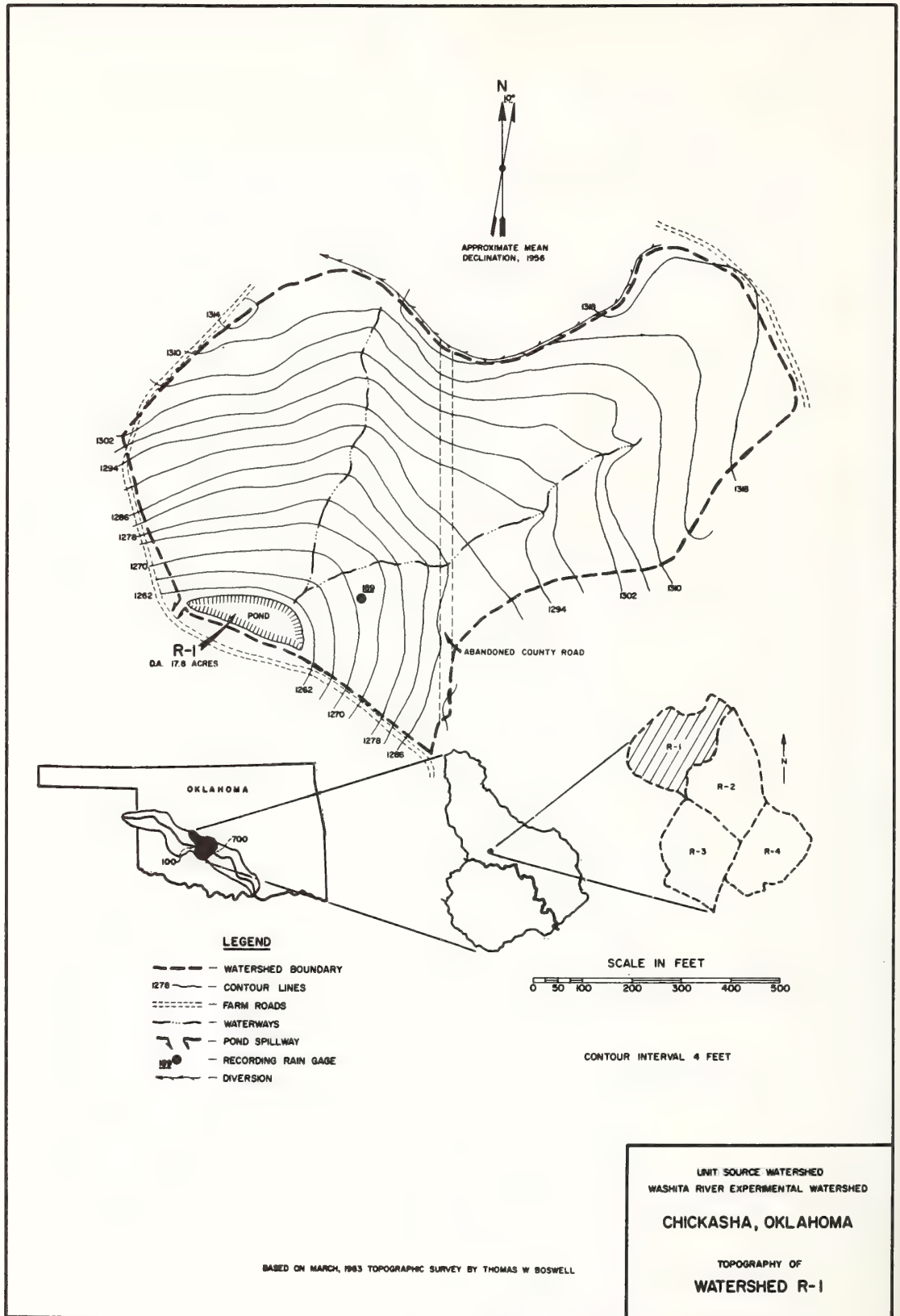
**WATERSHED CONDITIONS:** The portion of this watershed, west of the abandoned county roadway, was used for domestic livestock pasture from sometime prior to statehood in 1907 until 1957. The small farm pond in this watershed was constructed in about 1946. The area east of the abandoned county roadway was farmed for several years prior to 1959 when tillage was discontinued. This area was seeded to a mixture of native grasses in the early spring of 1961. The county road was abandoned in 1958. The entire area of the watershed has been utilized as pasture land since 1958. There are no active gullies or eroded areas. There is a good cover of vegetation on all of the area, consisting primarily of annual weeds and grasses. The range condition is classified as poor. The area is considered to be generally overgrazed. There is a considerable amount of pocket gopher activity west of the old roadway.

**GENERALLY REPRESENTS:** Pasture in the Central Great Plains, specifically the sandy side of the Central Rolling Red Prairies land resource area (H-80).

| MONTHLY PRECIPITATION AND RUNOFF (inches) |              |               |               |               |               | CHICKASHA, OKLAHOMA AREA—17.8 ACRES WATERSHED R-1 |               |               |               |               |               |               |                |
|-------------------------------------------|--------------|---------------|---------------|---------------|---------------|---------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| YEAR                                      | JAN          | FEB           | MAR           | APR           | MAY           | JUNE                                              | JULY          | AUG           | SEPT          | OCT           | NOV           | DEC           | ANNUAL         |
| 1962 P 2/<br>Q                            | .20          | .77           | .58           | 4.65          | 3.03          | 10.48                                             | .85<br>.0000  | .80<br>.0000  | 3.90<br>.0084 | 1.89<br>.0000 | 1.09<br>.0001 | .98<br>.0012  | 29.22          |
| 1963 P<br>Q                               | .14<br>.0000 | .37<br>.0000  | 1.58<br>.0000 | 1.90<br>.0038 | 1.53<br>.0018 | 2.15<br>.0026                                     | 1.21<br>.0000 | 1.46<br>.0000 | 1.64<br>.0000 | .77<br>.0000  | 2.75<br>.0049 | .62<br>.0000  | 16.12<br>.0131 |
| 1964 P<br>Q                               | .80<br>.0000 | 1.89<br>.0004 | 1.56<br>.0001 | 1.74<br>.0049 | 4.28<br>.0169 | 1.45<br>.0016                                     | .91<br>.0000  | 2.99<br>.0002 | 4.37<br>.0035 | .67<br>.0000  | 5.61<br>.0111 | .53<br>.0001  | 26.80<br>.0388 |
| 1965 P<br>Q                               | .77<br>.0000 | .65<br>.0000  | 1.08<br>.0000 | 3.58<br>.0488 | 3.82<br>.0193 | 4.21<br>.0085                                     | 1.24<br>.0000 | 6.29<br>.0378 | 2.74<br>.0057 | 1.97<br>.0026 | .04<br>.0000  | 1.23<br>.0008 | 27.62<br>.1235 |
| STA AV <sup>3</sup> /P<br>(62-65) Q       | .48<br>.0000 | .92<br>.0001  | 1.20<br>.0000 | 2.97<br>.0192 | 3.16<br>.0127 | 4.57<br>.0042                                     | 1.05<br>.0000 | 2.88<br>.0095 | 3.16<br>.0044 | 1.32<br>.0006 | 2.37<br>.0040 | .84<br>.0005  | 24.92<br>.0552 |
| MEAN P 4/<br>65 YR                        | 1.18         | 1.23          | 2.00          | 3.29          | 5.08          | 3.84                                              | 2.52          | 2.61          | 3.28          | 2.94          | 1.77          | 1.42          | 31.16          |

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data. 2/ Precipitation data obtained from recording rain gage No. 74. 3/ Precipitation records began Jan. 1, 1962. Runoff records began July 1, 1962. 4/ Mean P based on 65-yr. (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.

NO SUITABLE SELECTED RUNOFF EVENTS TO REPORT.



## CHICKASHA, OKLAHOMA WATERSHED R-2

**LOCATION:** Caddo County, Oklahoma; NW $\frac{1}{4}$  sec. 22, T. 8 N., R. 9 W., about 4-1/2 miles north and 2-3/4 miles west of Verden, Oklahoma; Washita River Basin.

**AREA:** 24.1 acres.

| Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 8+ | 1/ |
|-----------------|-----|-----|-----|-----|----|----|
| Percent of area | 0   | 5   | 5   | 30  | 60 |    |

**SOILS:** Residual, derived from the Marlow Formation of the Permian Age. 1/

| Soil                       | Per-<br>cent<br>of<br>area | Topsoil                |                                            |                   | Subsoil                                |                   | Substratum               |                     | Internal<br>drainage |
|----------------------------|----------------------------|------------------------|--------------------------------------------|-------------------|----------------------------------------|-------------------|--------------------------|---------------------|----------------------|
|                            |                            | Avg.<br>depth<br>(in.) | Structure                                  | Permea-<br>bility | Structure                              | Permea-<br>bility | Avg.<br>depth<br>to(in.) | Permea-<br>bility   |                      |
| Noble fine<br>sandy loam   | 40                         | 13                     | Moderate<br>medium<br>and fine<br>granular | Moderate          | Moderate to<br>weak medium<br>granular | Moderate          | 65                       | Moderately<br>rapid | Rapid                |
| Dill fine<br>sandy loam    | 39                         | 8                      | Moderate<br>medium<br>granular             | Moderate          | Weak coarse<br>granular                | Moderate          | 30                       | Moderately<br>slow  | Medium               |
| Darnell fine<br>sandy loam | 21                         | 8                      | Weak fine<br>granular                      | Moderate          | Weak fine<br>granular                  | Moderate          | 15                       | Moderately<br>slow  | Medium               |

| Erosion class   | 1  | 2  | 3 | 4 | 1/ |
|-----------------|----|----|---|---|----|
| Percent of area | 80 | 15 | 5 | 0 |    |

| Class           | I | II | III | IV | V | VI | VII | 1/ |
|-----------------|---|----|-----|----|---|----|-----|----|
| Percent of area | 0 | 0  | 0   | 35 | 0 | 65 | 0   |    |

**GEOLOGY:** This watershed is located on the Marlow Formation of Permian Age. The Marlow consists of shales, sandstone, and minor dolomite beds. The major portion of the formation is made up of even-bedded, ferrogenious, gypsiferous sandy shales. It is approximately 120 feet thick with a regional north-south strike and a gentle west dip. The soil mantle varies in depth from a few inches to two or three feet. The Marlow yields very little water to wells in this area and is highly mineralized. Source of data: Jack Clayton, Geologist, SCS; Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens Counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 1,450 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous. Watershed R-2 lies in tandum above Watershed R-3.

**INSTRUMENTATION:** Precipitation: One recording weighing type gage with 24-hour time scale. Runoff: FW-1 water level recorder with 12-hour time scale installed on 16-inch pipe located on face of farm pond dam.

**WATERSHED CONDITIONS:** A portion of this watershed in the immediate vicinity of the farm pond shown in watershed R-2 has been used as a livestock pasture from prior to statehood in 1907 until 1958. The remainder of the area has previously been in cultivation (See attached contour map). There are no active gullies or severely eroded areas. Numerous livestock trails lead to the pond. There is a good cover of vegetation consisting primarily of annual weeds and grasses with a considerable amount of little bluestem in the area around the pond and sand love grass in the formerly cultivated area. The range condition is classified as poor. The pond in this watershed was constructed sometime prior to 1937.

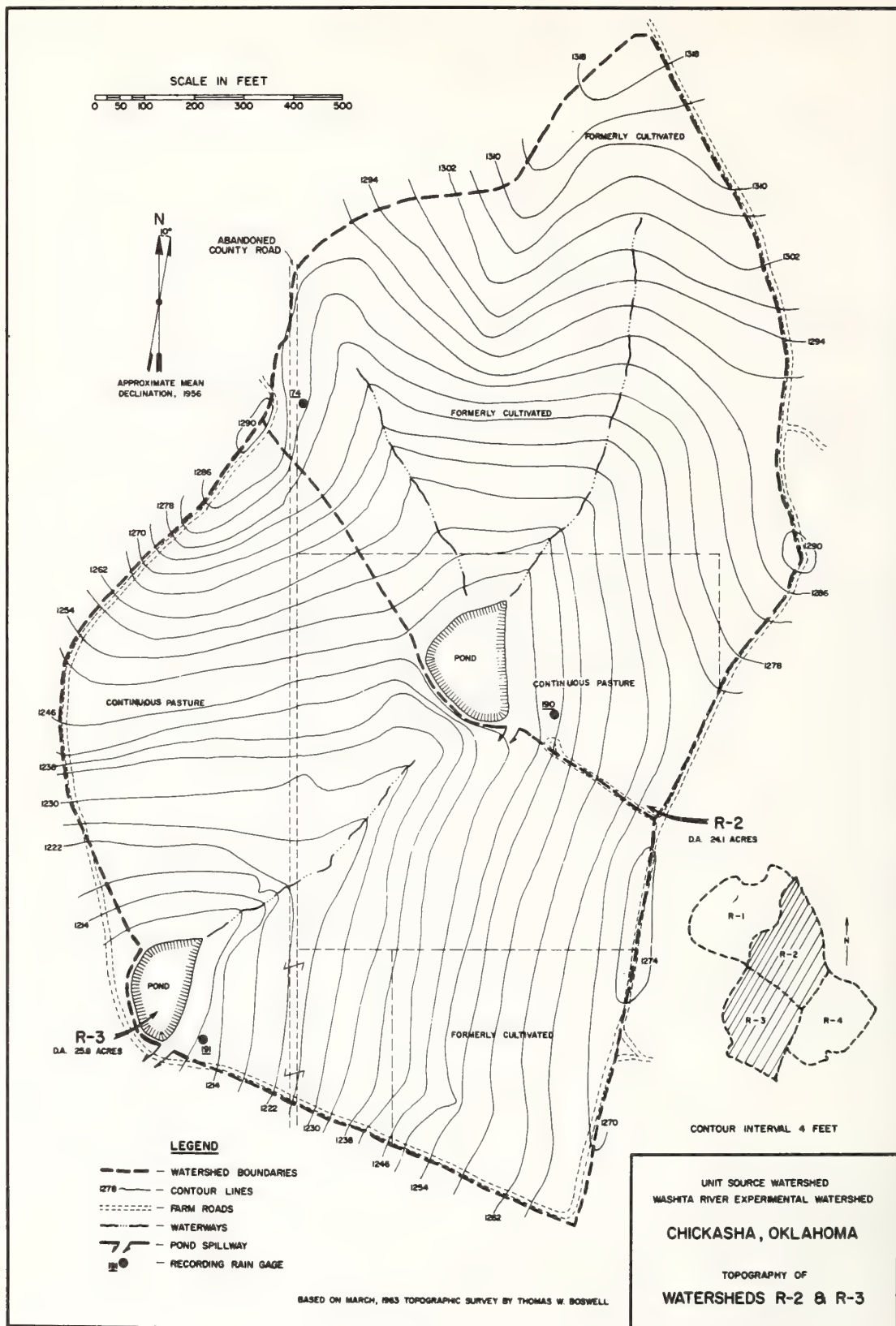
**GENERALLY REPRESENTS:** Pastures in the Central Great Plains, specifically the sandy side of the Central Rolling Red Prairies Land Resources Area (H-80).

| MONTHLY PRECIPITATION AND RUNOFF (inches) |              |               |               |               |               | CHICKASHA, OKLAHOMA AREA—24.1 ACRES WATERSHED R-2 |               |               |               |               |               |               |                |
|-------------------------------------------|--------------|---------------|---------------|---------------|---------------|---------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| MONTH<br>YEAR                             | JAN          | FEB           | MAR           | APR           | MAY           | JUNE                                              | JULY          | AUG           | SEPT          | OCT           | NOV           | DEC           | ANNUAL         |
| 1962 P <sup>2/</sup><br>Q                 | .20          | .77           | .58           | 4.65          | 3.03          | 10.48                                             | .85<br>.0000  | .80<br>.0000  | 3.90<br>.0327 | 1.89<br>.0045 | 1.09<br>.0023 | .98<br>.0059  | 29.22          |
| 1963 P<br>Q                               | .14<br>.0000 | .37<br>.0000  | 1.58<br>.0000 | 1.90<br>.0114 | 1.53<br>.0052 | 2.15<br>.0083                                     | 1.21<br>.0000 | 1.46<br>.0000 | 1.64<br>.0000 | .77<br>.0000  | 2.75<br>.0189 | .62<br>.0000  | 16.12<br>.0438 |
| 1964 P<br>Q                               | .80<br>.0000 | 1.89<br>.0000 | 1.56<br>.0000 | 1.74<br>.0146 | 4.28<br>.0369 | 1.45<br>.0034                                     | .91<br>.0000  | 2.99<br>.0008 | 4.37<br>.0144 | .67<br>.0000  | 5.61<br>.0524 | .53<br>.0010  | 26.80<br>.1235 |
| 1965 P<br>Q                               | .77<br>.0000 | .65<br>.0000  | 1.08<br>.0000 | 3.58<br>.1327 | 3.82<br>.0122 | 4.21<br>.0727                                     | 1.24<br>.0009 | 6.29<br>.2167 | 2.74<br>.2082 | 1.97<br>.0158 | .04<br>.0000  | 1.23<br>.0220 | 27.62<br>.6812 |
| STA AV <sup>3/</sup><br>(62-65) Q         | .48<br>.0000 | .92<br>.0000  | 1.20<br>.0000 | 2.97<br>.0529 | 3.16<br>.0181 | 4.57<br>.0281                                     | 1.05<br>.0002 | 2.88<br>.0544 | 3.16<br>.0188 | 1.32<br>.0051 | 2.37<br>.0184 | .84<br>.0072  | 24.92<br>.2032 |
| MEAN P <sup>4/</sup><br>65 YR             | 1.18         | 1.23          | 2.00          | 3.29          | 5.08          | 3.84                                              | 2.52          | 2.61          | 3.28          | 2.94          | 1.77          | 1.42          | 31.16          |

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data. 2/ Precipitation data obtained from recording rain gage No. 74. 3/ Precipitation records began Jan. 1, 1962. Runoff records began July 1, 1962. 4/ Mean P based on 65-yr. (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.

NO SUITABLE SELECTED RUNOFF EVENTS TO REPORT.





## CHICKASHA, OKLAHOMA WATERSHED R-3

**LOCATION:** Caddo County, Oklahoma; NE $\frac{1}{4}$  sec. 21, T. 8 N., R. 9 W., about 4 $\frac{1}{2}$  miles north and 3 $\frac{1}{2}$  miles west of Verden, Oklahoma; Washita River Basin.

**AREA:** 25.8 acres.

| SLOPES: | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 8+ | 1/ |
|---------|-----------------|-----|-----|-----|-----|----|----|
|         | Percent of area | 0   | 5   | 10  | 40  | 45 |    |

**SOILS:** Residual, derived from the Marlow Formation of the Permian Age. 1/

| Soil                       | Per-<br>cent<br>of<br>area | Topsoil                |                                            |                   | Subsoil                                |                   | Substratum                |                     | Internal<br>drainage |
|----------------------------|----------------------------|------------------------|--------------------------------------------|-------------------|----------------------------------------|-------------------|---------------------------|---------------------|----------------------|
|                            |                            | Avg.<br>depth<br>(in.) | Structure                                  | Permea-<br>bility | Structure                              | Permea-<br>bility | Avg.<br>depth<br>to (in.) | Permea-<br>bility   |                      |
| Noble fine<br>sandy loam   | 38                         | 13                     | Moderate<br>medium<br>and fine<br>granular | Moderate          | Moderate to<br>weak medium<br>granular | Moderate          | 65                        | Moderately<br>rapid | Rapid                |
| Dill fine<br>sandy loam    | 31                         | 8                      | Moderate<br>medium<br>granular             | Moderate          | Weak coarse<br>granular                | Moderate          | 30                        | Moderately<br>slow  | Medium               |
| Darnell fine<br>sandy loam | 31                         | 8                      | Weak fine<br>granular                      | Moderate          | Weak fine<br>granular                  | Moderate          | 15                        | Moderately<br>slow  | Medium               |

| EROSION: | Erosion class   | 1  | 2  | 3 | 4 | 1/ |
|----------|-----------------|----|----|---|---|----|
|          | Percent of area | 75 | 20 | 5 | 0 |    |

| LAND CAPABILITY: | Class           | I | II | III | IV | V | VI | VII | 1/ |
|------------------|-----------------|---|----|-----|----|---|----|-----|----|
|                  | Percent of area | 0 | 5  | 10  | 30 | 0 | 55 | 0   |    |

**GEOLOGY:** This watershed is located on the Marlow Formation of Permian Age. The Marlow consists of shales, sandstone, and minor dolomite beds. The major portion of the formation is made up of even-bedded, ferrogenious, gypsiferous sandy shales. It is approximately 120 feet thick with a regional north-south strike and a gentle west dip. The soil mantle varies in depth from a few inches to two or three feet. The Marlow yields very little water to wells in this area and is highly mineralized. Source of data: Jack Clayton, Geologist, SCS, Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens Counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 700 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Precipitation: One recording weighing type gage with 24-hour time scale. Runoff: FW-1 water level recorder with 12-hour time scale installed on 16-inch pipe located on face of farm pond dam.

**WATERSHED CONDITIONS:** This watershed lies in tandem below watershed R-2. The major portion of this watershed was used for livestock pasture from prior to statehood in 1907 until 1958. The farm pond in this watershed was constructed between 1940 and 1948. The county road was abandoned in 1958. The entire area of watershed R-1 through R-4 has been in a common pasture since 1958. There is a good cover of vegetation consisting of annual weeds and grasses with some little bluestem and blue grama grass. Range condition classified as poor.

**GENERALLY REPRESENTS:** Pastures in the Central Great Plains, specifically the sandy side of the Central Rolling Red Prairies Land Resources Area (H-80).

| MONTHLY PRECIPITATION AND RUNOFF (inches) |              |               |               |               |               | CHICKASHA, OKLAHOMA<br>WATERSHED R-3<br>AREA—25.8 ACRES |               |               |               |               |               |               |                |
|-------------------------------------------|--------------|---------------|---------------|---------------|---------------|---------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| MONTH<br>YEAR                             | JAN          | FEB           | MAR           | APR           | MAY           | JUNE                                                    | JULY          | AUG           | SEPT          | OCT           | NOV           | DEC           | ANNUAL         |
| 1962 P <sup>2/</sup><br>Q                 | .20          | .77           | .58           | 4.65          | 3.03          | 10.48                                                   | .85<br>.0000  | .80<br>.0000  | 3.90<br>.0466 | 1.89<br>.0030 | 1.09<br>.0021 | .98<br>.0039  | 29.22          |
| 1963 P<br>Q                               | .14<br>.0000 | .37<br>.0000  | 1.58<br>.0000 | 1.90<br>.0059 | 1.53<br>.0027 | 2.15<br>.0045                                           | 1.21<br>.0000 | 1.46<br>.0000 | 1.64<br>.0000 | .77<br>.0000  | 2.75<br>.0074 | .62<br>.0000  | 16.12<br>.0205 |
| 1964 P<br>Q                               | .80<br>.0000 | 1.89<br>.0015 | 1.56<br>.0000 | 1.74<br>.0037 | 4.28<br>.0173 | 1.45<br>.0026                                           | .91<br>.0000  | 2.99<br>.0012 | 4.37<br>.0086 | .67<br>.0000  | 5.61<br>.0302 | .53<br>.0004  | 26.80<br>.0655 |
| 1965 P<br>Q                               | .77<br>.0003 | .65<br>.0000  | 1.08<br>.0000 | 3.58<br>.0717 | 3.82<br>.0096 | 4.21<br>.0263                                           | 1.24<br>.0002 | 6.29<br>.0965 | 2.74<br>.0161 | 1.97<br>.0077 | .04<br>.0000  | 1.23<br>.0029 | 27.62<br>.2313 |
| STA AV <sup>3/</sup><br>(62-65) Q         | .48<br>.0001 | .92<br>.0005  | 1.20<br>.0000 | 2.97<br>.0271 | 3.16<br>.0099 | 4.57<br>.0111                                           | 1.05<br>.0001 | 2.88<br>.0244 | 3.16<br>.0178 | 1.32<br>.0027 | 2.37<br>.0099 | .84<br>.0018  | 24.92<br>.1054 |
| MEAN P <sup>4/</sup><br>65 YR             | 1.18         | 1.23          | 2.00          | 3.29          | 5.08          | 3.84                                                    | 2.52          | 2.61          | 3.28          | 2.94          | 1.77          | 1.42          | 31.16          |

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data. 2/ Precipitation data obtained from recording rain gage No. 74. 3/ Precipitation records began Jan. 1, 1962. Runoff records began July 1, 1962. 4/ Mean P based on 65-yr. (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.

NO SUITABLE SELECTED RUNOFF EVENTS TO REPORT. FOR TOPOGRAPHY MAP OF WATERSHED, SEE P. 69.39-2.

## CHICKASHA, OKLAHOMA WATERSHED R-4

**LOCATION:** Caddo County, Oklahoma; NW $\frac{1}{4}$  sec. 22, T. 8 N., R. 9 W., about 4 $\frac{1}{2}$  miles north and 2 $\frac{1}{2}$  miles west of Verden, Oklahoma; Washita River Basin.

**AREA:** 18.1 acres.

| SLOPES: | Slope - Percent | 0-1 | 1-3 | 3-5 | 5-8 | 8+ | 1/ |
|---------|-----------------|-----|-----|-----|-----|----|----|
|         | Percent of area | 0   | 5   | 5   | 40  | 50 |    |

**SOILS:** Residual, derived from the Marlow Formation of the Permian Age. 1/

| Soil                    | Percent of area | Topsoil          |                                   |              | Subsoil                          |              | Substratum         |                  | Internal drainage |
|-------------------------|-----------------|------------------|-----------------------------------|--------------|----------------------------------|--------------|--------------------|------------------|-------------------|
|                         |                 | Avg. depth (in.) | Structure                         | Permeability | Structure                        | Permeability | Avg. depth to(in.) | Permeability     |                   |
| Dill fine sandy loam    | 44              | 8                | Moderate medium granular          | Moderate     | Weak coarse granular             | Moderate     | 30                 | Moderately slow  | Medium            |
| Darnell fine sandy loam | 29              | 8                | Weak fine granular                | Moderate     | Weak fine granular               | Moderate     | 15                 | Moderately slow  | Medium            |
| Noble fine sandy loam   | 27              | 13               | Moderate medium and fine granular | Moderate     | Moderate to weak medium granular | Moderate     | 65                 | Moderately rapid | Rapid             |

| EROSION: | Erosion class   | 1  | 2  | 3 | 4 | 1/ |
|----------|-----------------|----|----|---|---|----|
|          | Percent of area | 50 | 50 | 0 | 0 |    |

| LAND CAPABILITY: | Class           | I | II | III | IV | V | VI | VII | 1/ |
|------------------|-----------------|---|----|-----|----|---|----|-----|----|
|                  | Percent of area | 0 | 5  | 5   | 30 | 0 | 60 | 0   |    |

**GEOLOGY:** This watershed is located on the Marlow Formation of Permian Age. The Marlow consists of shales, sandstone, and minor dolomite beds. The major portion of the formation is made up of even-bedded, ferrogenous, gypsiferous sandy shales. It is approximately 120 feet thick with a regional north-south strike and a gentle west dip. The soil mantle varies in depth from a few inches to two or three feet. The Marlow yields very little water to wells in this area and is highly mineralized. Source of data: Jack Clayton, Geologist, SCS; Bulletin No. 73, Geology and Ground Water Resources of Grady and Northern Stephens Counties, Oklahoma, by Leon V. Davis, Geologist U.S.G.S.

**SURFACE DRAINAGE:** Good, length of principal waterway 350 feet.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Precipitation: One recording weighing type gage with 24-hour time scale. Runoff: FW-1 water level recorder with 12-hour time scale installed on 16-inch pipe located on face of farm pond dam.

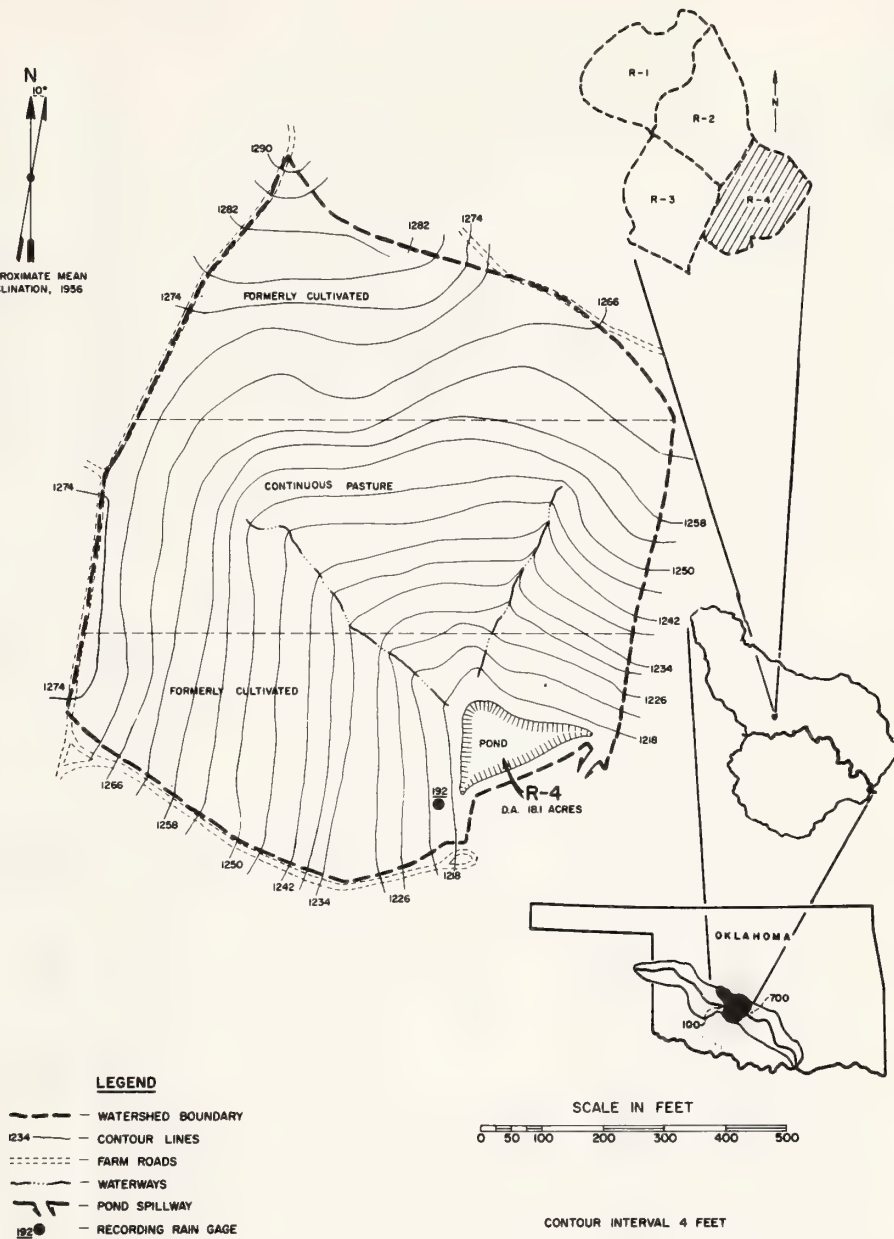
**WATERSHED CONDITIONS:** A portion of this watershed was used for domestic livestock pasture from some time prior to statehood in 1907 until 1957. The remaining area was farmed for several years prior to 1950 when tillage was discontinued. The formerly cultivated area has not been reseeded to any grass mixture. The entire area of the watershed has been utilized as pasture land since 1958. There are no active gullies or seriously eroded areas. There is a good cover of vegetation on all of the area, consisting primarily of annual weeds and grasses. The range condition is classified as poor. The area is considered to be generally overgrazed.

**GENERALLY REPRESENTS:** Pasture in the Central Great Plains, specifically the sandy side of the Central Rolling Red Prairies land resource area (R-80).

| MONTHLY PRECIPITATION AND RUNOFF (inches)       |              |               |               |               |               | CHICKASHA, OKLAHOMA<br>AREA—18.1 ACRES |               |               |               |               |               |               |                |  | WATERSHED R-4 |  |
|-------------------------------------------------|--------------|---------------|---------------|---------------|---------------|----------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|--|---------------|--|
| MONTH<br>YEAR                                   | JAN          | FEB           | MAR           | APR           | MAY           | JUNE                                   | JULY          | AUG           | SEPT          | OCT           | NOV           | DEC           | ANNUAL         |  |               |  |
| 1962 P <sup>2</sup> / <sub>Q</sub>              | .20          | .77           | .58           | 4.65          | 3.03          | 10.48                                  | .85<br>.0000  | .80<br>.0000  | 3.90<br>.0058 | 1.89<br>.0000 | 1.09<br>.0002 | .98<br>.0004  | 29.22          |  |               |  |
| 1963 P<br>Q                                     | .14<br>.0000 | .37<br>.0000  | 1.58<br>.0000 | 1.90<br>.0028 | 1.53<br>.0008 | 2.15<br>.0011                          | 1.21<br>.0000 | 1.46<br>.0000 | 1.64<br>.0000 | .77<br>.0000  | 2.75<br>.0042 | .62<br>.0000  | 16.12<br>.0089 |  |               |  |
| 1964 P<br>Q                                     | .80<br>.0000 | 1.89<br>.0000 | 1.56<br>.0006 | 1.74<br>.0022 | 4.28<br>.0151 | 1.45<br>.0013                          | .91<br>.0000  | 2.99<br>.0036 | 4.37<br>.0023 | .67<br>.0000  | 5.61<br>.0263 | .53<br>.0000  | 26.80<br>.0514 |  |               |  |
| 1965 P<br>Q                                     | .77<br>.0000 | .65<br>.0000  | 1.08<br>.0000 | 3.58<br>.2305 | 3.82<br>.0063 | 4.21<br>.1096                          | 1.24<br>.0000 | 6.29<br>.1626 | 2.74<br>.0237 | 1.97<br>.0081 | .04<br>.0000  | 1.23<br>.0007 | 27.62<br>.5415 |  |               |  |
| STA AV <sup>3</sup> / <sub>P</sub><br>(62-65) Q | .48<br>.0000 | .92<br>.0000  | 1.20<br>.0002 | 2.97<br>.0785 | 3.16<br>.0074 | 4.57<br>.0373                          | 1.05<br>.0000 | 2.88<br>.0416 | 3.16<br>.0080 | 1.32<br>.0020 | 2.37<br>.0077 | .84<br>.0003  | 24.92<br>.1830 |  |               |  |
| MEAN P <sup>4</sup> / <sub>65 YR</sub>          | 1.18         | 1.23          | 2.00          | 3.29          | 5.08          | 3.84                                   | 2.52          | 2.61          | 3.28          | 2.94          | 1.77          | 1.42          | 31.16          |  |               |  |

Notes: 1/ Information presented for general descriptive purposes and not intended to be precise data. 2/ Precipitation data obtained from recording rain gage No. 74. 3/ Precipitation records began Jan. 1, 1962. Runoff records began July 1, 1962. 4/ Mean P based on 65-yr. (1901-65) U.S. Weather Bureau record period at Chickasha, Okla.

NO SUITABLE SELECTED RUNOFF EVENTS TO REPORT.



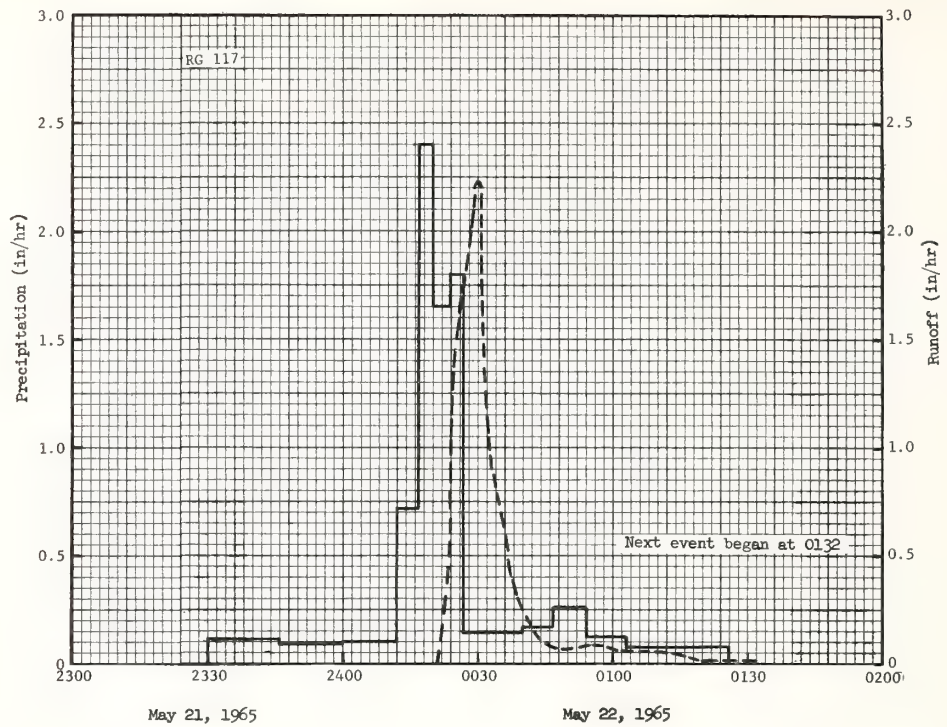
BASED ON MARCH, 1963 TOPOGRAPHIC SURVEY BY THOMAS W. BOSWELL



| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |                    |                                           |                |                      | TREYNOR, IOWA WATERSHED 1<br>AREA=74.5 ACRES |                |                |                 |                  |              |             |                | 71.0   |              |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-------------------------------------------|----------------|----------------------|----------------------------------------------|----------------|----------------|-----------------|------------------|--------------|-------------|----------------|--------|--------------|--------|
| MONTH<br>YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                 | JAN                  | FEB                | MAR                                       | APR            | MAY                  | JUNE                                         | JULY           | AUG            | SEPT            | OCT              | NOV          | DEC         | ANNUAL         |        |              |        |
| 1965 P 1/<br>Q                                                                                                                                                                                                                                                                                                                                                                                                                                                | .44<br>.26           | 1.57<br>1.57       | 1.75<br>2.28                              | 3.34<br>.65    | 6.53<br>2.02         | 8.50<br>2.40                                 | 4.25<br>.60    | 3.54<br>.47    | 11.95<br>2.49   | .87<br>.53       | 1.52<br>.47  | 1.09<br>.44 | 45.35<br>14.18 |        |              |        |
| STA AV 2/P<br>(64-65) Q                                                                                                                                                                                                                                                                                                                                                                                                                                       | .36<br>.20           | .92<br>.86         | 1.45<br>1.21                              | 4.30<br>.58    | 5.56<br>1.42         | 7.88<br>2.23                                 | 4.06<br>.65    | 4.84<br>.63    | 8.14<br>1.62    | .78<br>.34       | 1.26<br>.30  | .93<br>.30  | 40.48<br>10.34 |        |              |        |
| MEAN P 3/<br>95 YR                                                                                                                                                                                                                                                                                                                                                                                                                                            | .72                  | .92                | 1.43                                      | 2.62           | 3.74                 | 4.63                                         | 3.70           | 3.47           | 3.12            | 2.03             | 1.19         | .86         | 28.43          |        |              |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                         |                      |                    |                                           |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MAXIMUM<br>DISCHARGE |                    | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                    | 1 HOUR                                    |                | 2 HOURS              |                                              | 6 HOURS        |                | 12 HOURS        |                  | 1 DAY        |             | 2 DAYS         |        | 8 DAYS       |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DATE                 | RATE               | DATE                                      | VOLUME         | DATE                 | VOLUME                                       | DATE           | VOLUME         | DATE            | VOLUME           | DATE         | VOLUME      | DATE           | VOLUME | DATE         | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6-29                 | 4.16               | 6-29                                      | .84            | 6-28                 | 1.31                                         | 6-28           | 1.65           | 6-28            | 1.67             | 6-28         | 1.67        | 6-27           | 1.70   | 6-27         | 1.97   |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |                    |                                           |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |
| 1964 TO<br>1965                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6-29<br>1965         | 4.16               | 6-29<br>1965                              | .84            | 6-28<br>1965         | 1.31                                         | 6-28<br>1965   | 1.65           | 6-28<br>1965    | 1.67             | 6-28<br>1965 | 1.67        | 6-27<br>1965   | 1.70   | 6-27<br>1965 | 1.97   |
| Notes: Watershed conditions: 95% contoured corn; 5% gullies and grassed waterways. 1/ Precipitation from gage 117 before April 9 and after Nov. 27; Thiessen average of gages 116, 117 and 118 for remainder of year. 2/ Precipitation records from Jan. 1, 1964. Runoff records began Feb. 10, 1964. Jan. 1 - Feb. 10, 1964 runoff estimated and included in average. 3/ Mean P based on 95-yr (1871-1965) U.S. Weather Bureau record period at Omaha, Nebr. |                      |                    |                                           |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |
| 1965 SELECTED RUNOFF EVENT                                                                                                                                                                                                                                                                                                                                                                                                                                    |                      |                    |                                           |                |                      | TREYNOR, IOWA WATERSHED 1                    |                |                |                 |                  |              |             |                | 71.01  |              |        |
| ANTECEDENT CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                    | RAINFALL                                  |                |                      |                                              | RUNOFF         |                |                 |                  |              |             |                |        |              |        |
| DATE<br>MO-DAY                                                                                                                                                                                                                                                                                                                                                                                                                                                | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY                            | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches)                             | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(in/hr) | ACC.<br>(inches) |              |             |                |        |              |        |
| 3 RG 4/                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                      |                    | Event of May 21 and 22, 1965              |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |
| 4-22                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0058              | 5-21                                      | RG             | 117                  |                                              | 5-22           | 0001           | .0003           | .000             |              |             |                |        |              |        |
| 4-23                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0058              |                                           | 2330           | .00                  | .00                                          |                | 0012           | .0004           | .000             |              |             |                |        |              |        |
| 4-24                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .46                  | .0095              |                                           | 2346           | .11                  | .03                                          |                | 0017           | .0012           | .000             |              |             |                |        |              |        |
| 4-25                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .36                  | .0083              | 5-22                                      | 2400           | .09                  | .05                                          |                | 0021           | .0057           | .000             |              |             |                |        |              |        |
| 4-26                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0067              |                                           | 0012           | .10                  | .07                                          |                | 0023           | .340            | .006             |              |             |                |        |              |        |
| 4-27                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .03                  | .0067              |                                           | 0017           | .72                  | .13                                          |                | 0024           | 1.15            | .018             |              |             |                |        |              |        |
| 4-28                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0062              |                                           | 0020           | 2.40                 | .25                                          |                | 0025           | 1.47            | .040             |              |             |                |        |              |        |
| 4-29                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0057              |                                           | 0024           | 1.65                 | .36                                          |                | 0026           | 1.71            | .067             |              |             |                |        |              |        |
| 4-30                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0050              |                                           | 0027           | 1.80                 | .45                                          |                | 0028           | 2.02            | .129             |              |             |                |        |              |        |
| 5-1                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00                  | .0048              |                                           | 0040           | .14                  | .48                                          |                | 0029           | 2.21            | .164             |              |             |                |        |              |        |
| 5-2                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00                  | .0048              |                                           | 0047           | .17                  | .50                                          |                | 0030           | 2.23            | .201             |              |             |                |        |              |        |
| 5-3                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00                  | .0047              |                                           | 0054           | .26                  | .53                                          |                | 0031           | 1.62            | .234             |              |             |                |        |              |        |
| 5-4                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .03                  | .0045              |                                           | 0103           | .13                  | .55                                          |                | 0032           | 1.15            | .256             |              |             |                |        |              |        |
| 5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .15                  | .0049              |                                           | 0126           | .08                  | .58                                          |                | 0035           | .718            | .303             |              |             |                |        |              |        |
| 5-6                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00                  | .0044              |                                           |                |                      |                                              |                | 0037           | .444            | .322             |              |             |                |        |              |        |
| 5-7                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00                  | .0044              |                                           | RG             | 116                  | .59                                          |                | 0041           | .202            | .344             |              |             |                |        |              |        |
| 5-8                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .98                  | .0124              |                                           | RG             | 118                  | .80                                          |                | 0044           | .113            | .352             |              |             |                |        |              |        |
| 5-9                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00                  | .0052              |                                           |                |                      |                                              |                | 0048           | .0702           | .358             |              |             |                |        |              |        |
| 5-10                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0046              |                                           | 3 RG           | AVG 4/               | .67                                          |                | 0052           | .0776           | .363             |              |             |                |        |              |        |
| 5-11                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0048              |                                           |                |                      |                                              |                | 0055           | .0933           | .367             |              |             |                |        |              |        |
| 5-12                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0050              |                                           |                |                      |                                              |                | 0058           | .0827           | .372             |              |             |                |        |              |        |
| 5-13                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0048              |                                           |                |                      |                                              |                | 0101           | .0607           | .375             |              |             |                |        |              |        |
| 5-14                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .26                  | .0067              |                                           |                |                      |                                              |                | 0105           | .0627           | .379             |              |             |                |        |              |        |
| 5-15                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0056              |                                           |                |                      |                                              |                | 0109           | .0607           | .384             |              |             |                |        |              |        |
| 5-16                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0047              |                                           |                |                      |                                              |                | 0111           | .0527           | .385             |              |             |                |        |              |        |
| 5-17                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .43                  | .0047              |                                           |                |                      |                                              |                | 0113           | .0507           | .387             |              |             |                |        |              |        |
| 5-18                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .60                  | .2124              |                                           |                |                      |                                              |                | 0117           | .0340           | .390             |              |             |                |        |              |        |
| 5-19                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0046              |                                           |                |                      |                                              |                | 0119           | .0230           | .391             |              |             |                |        |              |        |
| 5-20                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00                  | .0045              |                                           |                |                      |                                              |                | 0123           | .0180           | .392             |              |             |                |        |              |        |
| 5-21                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5/ .83               | .2546              |                                           |                |                      |                                              |                | 0132           | 6/ .0161        | .395             |              |             |                |        |              |        |
| Watershed conditions:<br>95% - Contoured corn, plants emerged-2 in. tall, drilled in 2-4 in. deep contoured furrows;<br>5% - gullies and grassed waterways.                                                                                                                                                                                                                                                                                                   |                      |                    |                                           |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |
| NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 75.121. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 71.1-5. 4/ THIESSEN AVERAGE OF 3 RECORDING RAIN GAGES. 5/ RAINFALL FROM 0420 TO 0650. 6/ BEGINNING OF NEXT EVENT.                                                                                                                                        |                      |                    |                                           |                |                      |                                              |                |                |                 |                  |              |             |                |        |              |        |

| 1965<br>SELECTED RUNOFF EVENT                                                                                                          |                      |                    | TREYNOR, IOWA WATERSHED 1 |                |                      |                  |                |                |                 |                  | 71.01 |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|---------------------------|----------------|----------------------|------------------|----------------|----------------|-----------------|------------------|-------|
| ANTECEDENT CONDITIONS                                                                                                                  |                      |                    | RAINFALL                  |                |                      |                  | RUNOFF         |                |                 |                  |       |
| DATE<br>MO-DAY                                                                                                                         | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY            | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(in/hr) | ACC.<br>(inches) |       |
| 3 RG 1/                                                                                                                                |                      |                    | Event of June 29, 1965    |                |                      |                  |                |                |                 |                  |       |
| 5-30                                                                                                                                   | .00                  | .0081              | 6-29                      | RG             | 117                  |                  | 6-29           | 0101           | .0487           | .000             |       |
| 5-31                                                                                                                                   | .00                  | .0081              |                           | 0043           | .00                  | .00              |                | 0102           | .0507           | .001             |       |
| 6-1                                                                                                                                    | .24                  | .0088              |                           | 0103           | .30                  | .10              |                | 0104           | .0676           | .003             |       |
| 6-2                                                                                                                                    | .40                  | .0602              |                           | 0113           | .60                  | .20              |                | 0106           | .110            | .006             |       |
| 6-3                                                                                                                                    | .00                  | .0080              |                           | 0116           | 5.60                 | .48              |                | 0107           | .189            | .008             |       |
| 6-4                                                                                                                                    | .32                  | .0252              |                           | 0118           | 6.90                 | .71              |                | 0108           | .238            | .012             |       |
| 6-5                                                                                                                                    | .45                  | .0284              |                           | 0121           | 6.20                 | 1.02             |                | 0110           | .279            | .020             |       |
| 6-6                                                                                                                                    | .69                  | .3841              |                           | 0126           | 2.40                 | 1.22             |                | 0112           | .318            | .030             |       |
| 6-7                                                                                                                                    | .23                  | .0104              |                           | 0132           | 1.50                 | 1.37             |                | 0114           | .457            | .043             |       |
| 6-8                                                                                                                                    | .00                  | .0088              |                           | 0137           | 1.44                 | 1.49             |                | 0116           | .941            | .067             |       |
| 6-9                                                                                                                                    | .11                  | .0097              | 0146                      | .40            | 1.55                 |                  | 0117           | 1.21           | .085            |                  |       |
| 6-10                                                                                                                                   | .00                  | .0081              | 0213                      | .18            | 1.63                 |                  | 0118           | 1.64           | .108            |                  |       |
| 6-11                                                                                                                                   | .00                  | .0081              |                           |                |                      |                  | 0119           | 2.19           | .140            |                  |       |
| 6-12                                                                                                                                   | .05                  | .0080              | RG                        | 116            | 1.33                 |                  | 0120           | 2.87           | .182            |                  |       |
| 6-13                                                                                                                                   | .20                  | .0087              | RG                        | 118            | 1.21                 |                  | 0121           | 3.60           | .236            |                  |       |
| 6-14                                                                                                                                   | .00                  | .0082              | 3 RG                      | AVG 1/         | 1.40                 |                  | 0122           | 4.16           | .301            |                  |       |
| 6-15                                                                                                                                   | .00                  | .0081              |                           |                |                      |                  | 0123           | 3.74           | .367            |                  |       |
| 6-16                                                                                                                                   | .00                  | .0080              |                           |                |                      |                  | 0124           | 3.15           | .424            |                  |       |
| 6-17                                                                                                                                   | .00                  | .0082              |                           |                |                      |                  | 0125           | 2.66           | .473            |                  |       |
| 6-18                                                                                                                                   | .00                  | .0083              |                           |                |                      |                  | 0126           | 2.13           | .512            |                  |       |
| 6-19                                                                                                                                   | .00                  | .0082              |                           |                |                      |                  | 0128           | 1.53           | .574            |                  |       |
| 6-20                                                                                                                                   | .06                  | .0080              |                           |                |                      |                  | 0130           | 1.23           | .620            |                  |       |
| 6-21                                                                                                                                   | .00                  | .0074              |                           |                |                      |                  | 0132           | 1.04           | .657            |                  |       |
| 6-22                                                                                                                                   | .00                  | .0070              |                           |                |                      |                  | 0134           | .856           | .689            |                  |       |
| 6-23                                                                                                                                   | .00                  | .0067              |                           |                |                      |                  | 0136           | .700           | .715            |                  |       |
| 6-24                                                                                                                                   | .00                  | .0069              |                           |                |                      |                  | 0138           | .647           | .737            |                  |       |
| 6-25                                                                                                                                   | .54                  | .0093              |                           |                |                      |                  | 0140           | .613           | .758            |                  |       |
| 6-26                                                                                                                                   | .52                  | .0141              |                           |                |                      |                  | 0142           | .517           | .777            |                  |       |
| 6-27                                                                                                                                   | .55                  | .0273              |                           |                |                      |                  | 0144           | .396           | .792            |                  |       |
| 6-28                                                                                                                                   | 1.83                 | .5607              |                           |                |                      |                  | 0146           | .329           | .804            |                  |       |
| 6-29                                                                                                                                   | 2/ .39               | 3/ .1877           |                           |                |                      |                  | 0149           | .224           | .818            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0152           | .143           | .827            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0155           | .0752          | .833            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0158           | .0447          | .836            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0201           | .0368          | .838            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0203           | .0326          | .839            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0205           | .0313          | .840            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0210           | .0326          | .843            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0214           | .0326          | .845            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0217           | .0313          | .847            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0220           | .0288          | .848            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0230           | .0198          | .852            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0240           | .0114          | .855            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0250           | .0062          | .856            |                  |       |
|                                                                                                                                        |                      |                    |                           |                |                      |                  | 0257           | 4/ .0053       | .857            |                  |       |
| Watershed conditions:<br>95% - Contoured corn 20-25 in. tall, cultivated 7 days prior to event;<br>5% - gullies and grassed waterways. |                      |                    |                           |                |                      |                  |                |                |                 |                  |       |

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 75.121. 1/ THIESSEN AVERAGE OF 3 RECORDING RAIN GAGES.  
2/ RAINFALL FROM 0001 TO 0043. 3/ RUNOFF PRIOR TO 0101. 4/ BEGINNING OF NEXT EVENT.



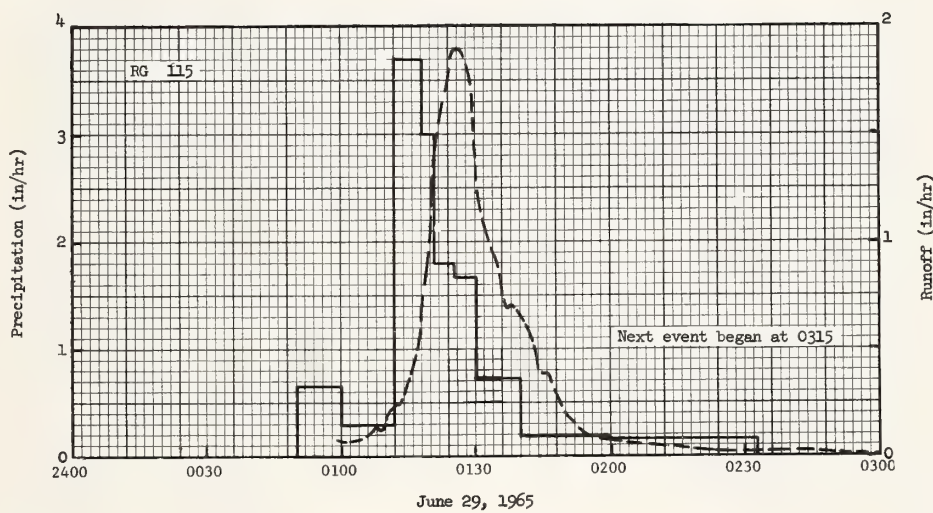
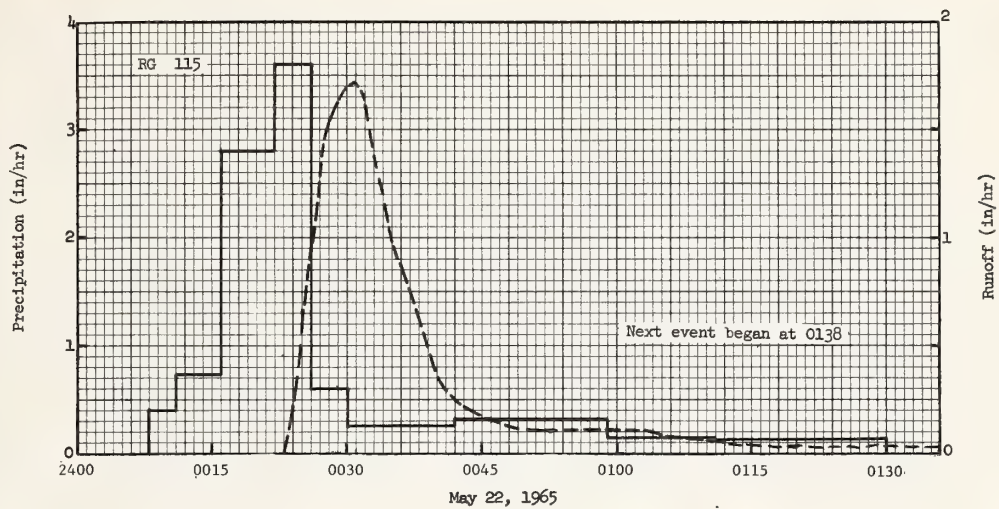


| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |          |                                           |                       |           |          | TREYNOR, IOWA WATERSHED 2<br>AREA=82.8 ACRES |        |          |          |       |        |        | 71.02  |        |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|-------------------------------------------|-----------------------|-----------|----------|----------------------------------------------|--------|----------|----------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                      | MONTH             | JAN      | FEB                                       | MAR                   | APR       | MAY      | JUNE                                         | JULY   | AUG      | SEPT     | OCT   | NOV    | DEC    | ANNUAL |        |        |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                      | P 1/              | .44      | 1.57                                      | 1.75                  | 3.33      | 6.37     | 8.40                                         | 4.00   | 3.30     | 11.80    | .76   | 1.53   | 1.09   | 44.34  |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Q                 | .29      | 1.89                                      | 2.32                  | .72       | 1.85     | 2.32                                         | .54    | .41      | 2.18     | .47   | .35    | .31    | 13.65  |        |        |
| STA AV 2/P<br>(64-65)                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2/P               | .36      | .92                                       | 1.46                  | 4.26      | 5.49     | 7.85                                         | 3.86   | 4.60     | 8.04     | .72   | 1.27   | .93    | 39.76  |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Q                 | .22      | 1.03                                      | 1.26                  | .58       | 1.40     | 2.18                                         | .48    | .52      | 1.42     | .31   | .25    | .26    | 9.91   |        |        |
| MEAN P 3/<br>95 YR                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3/                | .72      | .92                                       | 1.43                  | 2.62      | 3.74     | 4.63                                         | 3.70   | 3.47     | 3.12     | 2.03  | 1.19   | .86    | 28.43  |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                     |                   |          |                                           |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                      | MAXIMUM DISCHARGE |          | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          | 1 HOUR                                    |                       | 2 HOURS   |          | 6 HOURS                                      |        | 12 HOURS |          | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DATE              | RATE     | DATE                                      | VOLUME                | DATE      | VOLUME   | DATE                                         | VOLUME | DATE     | VOLUME   | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6-29              | 1.88     | 6-28                                      | .72                   | 6-28      | 1.26     | 6-28                                         | 1.67   | 6-28     | 1.68     | 6-28  | 1.69   | 2-27   | 1.78   | 6-27   | 2.00   |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |          |                                           |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |
| 19 64 TO                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6-22              | 2.59     | 6-28                                      | .72                   | 6-28      | 1.26     | 6-28                                         | 1.67   | 6-28     | 1.68     | 6-28  | 1.69   | 2-27   | 1.78   | 6-27   | 2.00   |
| 19 65                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1964              |          | 1965                                      |                       | 1965      |          | 1965                                         |        | 1965     |          | 1965  |        | 1965   |        | 1965   |        |
| NOTES: Watershed conditions: 95% contoured corn; 5% gullies and grassed waterways. 1/ Precipitation from gage 117 before Apr. 9 and after Nov. 27; Thiessen average of gages 115, 116 and 118 for remainder of year. 2/ Precipitation records from Jan. 1, 1964. Runoff records began Feb. 3, 1964. Jan. 1-Feb. 3, 1964 runoff estimated and included in average. 3/ Mean P based on 95-yr (1871-1965) U. S. Weather Bureau record period at Omaha, Nebr. |                   |          |                                           |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |
| 1965 SELECTED RUNOFF EVENT                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |          |                                           |                       |           |          | TREYNOR, IOWA WATERSHED 2                    |        |          |          |       |        |        | 71.02  |        |        |
| ANTECEDENT CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |          | RAINFALL                                  |                       |           |          | RUNOFF                                       |        |          |          |       |        |        |        |        |        |
| DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                      | RAINFALL          | RUNOFF   | DATE                                      | TIME                  | INTENSITY | ACC.     | DATE                                         | TIME   | RATE     | ACC.     |       |        |        |        |        |        |
| MO-DAY                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (inches)          | (inches) | MO-DAY                                    | OF DAY                | (in/hr)   | (inches) | MO-DAY                                       | OF DAY | (in/hr)  | (inches) |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3 RG 4/           |          |                                           | Event of May 22, 1965 |           |          |                                              |        |          |          |       |        |        |        |        |        |
| 4-22                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0049    |                                           | RG                    | 115       |          | 5-22                                         | 0001   | .0008    | .000     |       |        |        |        |        |        |
| 4-23                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0049    | 5-22                                      | 0008                  | .00       | .00      |                                              | 0014   | .0010    | .000     |       |        |        |        |        |        |
| 4-24                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .45               | .0110    |                                           | 0011                  | .40       | .02      |                                              | 0016   | .0016    | .000     |       |        |        |        |        |        |
| 4-25                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .35               | .0124    |                                           | 0016                  | .72       | .08      |                                              | 0018   | .0018    | .000     |       |        |        |        |        |        |
| 4-26                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0049    |                                           | 0022                  | 2.80      | .36      |                                              | 0019   | .0026    | .000     |       |        |        |        |        |        |
| 4-27                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .03               | .0053    |                                           | 0026                  | 3.60      | .60      |                                              | 0023   | .0035    | .000     |       |        |        |        |        |        |
| 4-28                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0050    |                                           | 0030                  | .60       | .64      |                                              | 0024   | .229     | .002     |       |        |        |        |        |        |
| 4-29                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0042    |                                           | 0042                  | .25       | .69      |                                              | 0025   | .671     | .010     |       |        |        |        |        |        |
| 4-30                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0037    |                                           | 0059                  | .32       | .78      |                                              | 0026   | .954     | .024     |       |        |        |        |        |        |
| 5-1                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00               | .0034    |                                           | 0111                  | .15       | .81      |                                              | 0027   | 1.34     | .043     |       |        |        |        |        |        |
| 5-2                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00               | .0039    |                                           | 0130                  | .13       | .85      |                                              | 0028   | 1.54     | .067     |       |        |        |        |        |        |
| 5-3                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00               | .0046    |                                           |                       |           |          |                                              | 0029   | 1.63     | .093     |       |        |        |        |        |        |
| 5-4                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .04               | .0046    |                                           |                       |           |          |                                              | 0030   | 1.69     | .121     |       |        |        |        |        |        |
| 5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .16               | .0048    |                                           |                       |           |          |                                              | 0031   | 1.72     | .149     |       |        |        |        |        |        |
| 5-6                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00               | .0037    |                                           | RG                    | 116       | .59      |                                              | 0032   | 1.62     | .177     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           | RG                    | 118       | .82      |                                              |        |          |          |       |        |        |        |        |        |
| 5-7                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00               | .0042    |                                           | 3 RG                  | AVG 4/    | .73      |                                              | 0033   | 1.38     | .202     |       |        |        |        |        |        |
| 5-8                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .93               | .0110    |                                           |                       |           |          |                                              | 0034   | 1.20     | .223     |       |        |        |        |        |        |
| 5-9                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00               | .0042    |                                           |                       |           |          |                                              | 0035   | .980     | .242     |       |        |        |        |        |        |
| 5-10                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0042    |                                           |                       |           |          |                                              | 0037   | .770     | .271     |       |        |        |        |        |        |
| 5-11                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0043    |                                           |                       |           |          |                                              | 0039   | .488     | .292     |       |        |        |        |        |        |
| 5-12                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0039    |                                           |                       |           |          |                                              | 0041   | .294     | .305     |       |        |        |        |        |        |
| 5-13                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0037    |                                           |                       |           |          |                                              | 0043   | .225     | .313     |       |        |        |        |        |        |
| 5-14                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .27               | .0057    |                                           |                       |           |          |                                              | 0046   | .163     | .323     |       |        |        |        |        |        |
| 5-15                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0046    |                                           |                       |           |          |                                              | 0049   | .117     | .330     |       |        |        |        |        |        |
| 5-16                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0046    |                                           |                       |           |          |                                              | 0051   | .109     | .334     |       |        |        |        |        |        |
| 5-17                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .36               | .0047    |                                           |                       |           |          |                                              | 0053   | .107     | .337     |       |        |        |        |        |        |
| 5-18                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .56               | .1263    |                                           |                       |           |          |                                              | 0058   | .114     | .347     |       |        |        |        |        |        |
| 5-19                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0050    |                                           |                       |           |          |                                              | 0102   | .114     | .354     |       |        |        |        |        |        |
| 5-20                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00               | .0047    |                                           |                       |           |          |                                              | 0104   | .0954    | .358     |       |        |        |        |        |        |
| 5-21                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .88               | .2462    |                                           |                       |           |          |                                              | 0105   | .0788    | .359     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0112   | .0512    | .367     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0115   | .0455    | .369     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0120   | .0484    | .373     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0122   | .0484    | .375     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0123   | .0455    | .376     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0130   | .0385    | .380     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0133   | .0349    | .382     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0136   | .0282    | .384     |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |          |                                           |                       |           |          |                                              | 0138   | 5/ .0249 | .385     |       |        |        |        |        |        |
| Watershed conditions:<br>95% - Contoured corn, plants emerged-2 in. tall, drilled in 2-4 in. deep contour furrows;<br>5% - gullies and grassed waterways.                                                                                                                                                                                                                                                                                                 |                   |          |                                           |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |
| NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 83.490. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 71.2-5. 4/ THIESSEN AVERAGE OF 3 RECORDING RAIN GAGES. 5/ BEGINNING OF NEXT EVENT.                                                                                                                                                      |                   |          |                                           |                       |           |          |                                              |        |          |          |       |        |        |        |        |        |



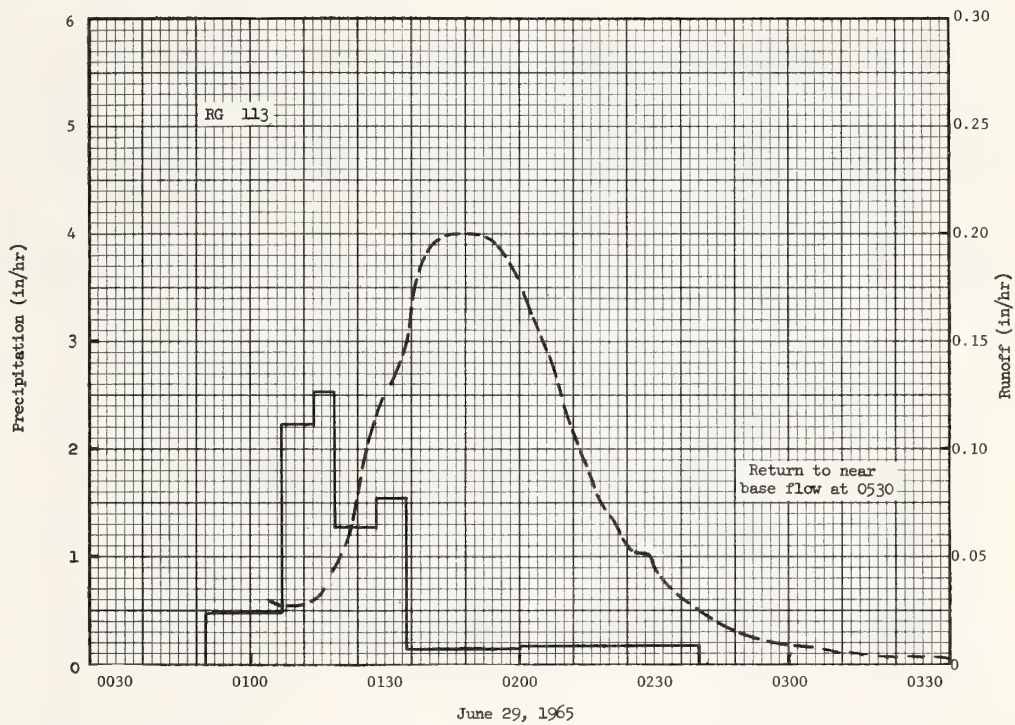
| 1965 SELECTED RUNOFF EVENT                                                                                                                          |                      |                    | TREYNOR, IOWA WATERSHED 2 71.02. |                        |                      |                  |                |                |                 |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|----------------------------------|------------------------|----------------------|------------------|----------------|----------------|-----------------|------------------|
| ANTECEDENT CONDITIONS                                                                                                                               |                      |                    | RAINFALL                         |                        |                      |                  | RUNOFF         |                |                 |                  |
| DATE<br>MO-DAY                                                                                                                                      | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY                   | TIME<br>OF DAY         | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(in/hr) | ACC.<br>(inches) |
|                                                                                                                                                     | 3 RG 1/              |                    |                                  | Event of June 29, 1965 |                      |                  |                |                |                 |                  |
| 5-30                                                                                                                                                | .00                  | .0062              | 6-29                             | RG                     | 115                  |                  | 6-29           | 0102           | .0694           | .000             |
| 5-31                                                                                                                                                | .00                  | .0057              |                                  | 0050                   | .00                  | .00              |                | 0104           | .0713           | .002             |
| 6-1                                                                                                                                                 | .24                  | .0074              |                                  | 0100                   | .66                  | .11              |                | 0105           | .0863           | .004             |
| 6-2                                                                                                                                                 | .35                  | .0350              |                                  | 0112                   | .30                  | .17              |                | 0106           | .0976           | .005             |
| 6-3                                                                                                                                                 | .00                  | .0062              |                                  | 0118                   | 3.70                 | .54              |                | 0107           | .124            | .007             |
| 6-4                                                                                                                                                 | .32                  | .0222              |                                  | 0121                   | 3.00                 | .69              |                | 0108           | .129            | .009             |
| 6-5                                                                                                                                                 | .39                  | .0130              |                                  | 0125                   | 1.80                 | .81              |                | 0109           | .119            | .011             |
| 6-6                                                                                                                                                 | .70                  | .3654              |                                  | 0130                   | 1.68                 | .95              |                | 0110           | .163            | .014             |
| 6-7                                                                                                                                                 | .24                  | .0085              |                                  | 0140                   | .72                  | 1.07             |                | 0111           | .225            | .017             |
| 6-8                                                                                                                                                 | .00                  | .0066              |                                  | 0200                   | .18                  | 1.13             |                | 0113           | .237            | .024             |
| 6-9                                                                                                                                                 | .06                  | .0072              |                                  | 0233                   | .16                  | 1.22             |                | 0115           | .358            | .034             |
| 6-10                                                                                                                                                | .00                  | .0063              |                                  |                        |                      |                  |                | 0117           | .500            | .049             |
| 6-11                                                                                                                                                | .00                  | .0057              |                                  | RG                     | 116                  | 1.25             |                | 0118           | .701            | .059             |
| 6-12                                                                                                                                                | .03                  | .0053              |                                  | RG                     | 118                  | 1.30             |                | 0119           | .842            | .072             |
| 6-13                                                                                                                                                | .19                  | .0068              |                                  |                        |                      |                  |                | 0120           | 1.07            | .088             |
| 6-14                                                                                                                                                | .00                  | .0053              |                                  | 3 RG                   | AVG 1/               | 1.25             |                | 0121           | 1.38            | .108             |
| 6-15                                                                                                                                                | .00                  | .0052              |                                  |                        |                      |                  |                | 0123           | 1.67            | .159             |
| 6-16                                                                                                                                                | .00                  | .0051              |                                  |                        |                      |                  |                | 0124           | 1.79            | .188             |
| 6-17                                                                                                                                                | .00                  | .0049              |                                  |                        |                      |                  |                | 0125           | 1.88            | .218             |
| 6-18                                                                                                                                                | .00                  | .0049              |                                  |                        |                      |                  |                | 0127           | 1.88            | .281             |
| 6-19                                                                                                                                                | .00                  | .0049              |                                  |                        |                      |                  |                | 0128           | 1.84            | .312             |
| 6-20                                                                                                                                                | .05                  | .0048              |                                  |                        |                      |                  |                | 0129           | 1.74            | .341             |
| 6-21                                                                                                                                                | .00                  | .0049              |                                  |                        |                      |                  |                | 0130           | 1.43            | .368             |
| 6-22                                                                                                                                                | .00                  | .0045              |                                  |                        |                      |                  |                | 0131           | 1.19            | .390             |
| 6-23                                                                                                                                                | .00                  | .0044              |                                  |                        |                      |                  |                | 0133           | 1.02            | .426             |
| 6-24                                                                                                                                                | .00                  | .0045              |                                  |                        |                      |                  |                | 0135           | .910            | .459             |
| 6-25                                                                                                                                                | .56                  | .0088              |                                  |                        |                      |                  |                | 0137           | .686            | .485             |
| 6-26                                                                                                                                                | .58                  | .0137              |                                  |                        |                      |                  |                | 0138           | .708            | .497             |
| 6-27                                                                                                                                                | .67                  | .0469              |                                  |                        |                      |                  |                | 0141           | .622            | .530             |
| 6-28                                                                                                                                                | 1.88                 | .7357              |                                  |                        |                      |                  |                | 0143           | .524            | .549             |
| 6-29                                                                                                                                                | 2/ .46               | 3/ .2432           |                                  |                        |                      |                  |                | 0145           | .379            | .564             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0146           | .384            | .571             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0147           | .344            | .577             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0148           | .286            | .582             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0150           | .198            | .590             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0152           | .163            | .596             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0153           | .129            | .598             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0155           | .0976           | .602             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0200           | .0713           | .609             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0204           | .0561           | .614             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0213           | .0399           | .621             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0219           | .0315           | .624             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0230           | .0220           | .629             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0234           | .0204           | .631             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0242           | .0180           | .633             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0247           | .0151           | .634             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0250           | .0120           | .635             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0302           | .0103           | .637             |
|                                                                                                                                                     |                      |                    |                                  |                        |                      |                  |                | 0315           | 4/ .0098        | .640             |
| Watershed conditions:<br>95% - Contoured corn,<br>20-25 in. tall,<br>cultivated 6 days<br>prior to event;<br>5% - gullies and grassed<br>waterways. |                      |                    |                                  |                        |                      |                  |                |                |                 |                  |

NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 83.490. 1/ THIESSEN AVERAGE OF 3 RECORDING RAIN GAGES.  
 2/ RAINFALL FROM 0001 TO 0050. 3/ RUNOFF PRIOR TO 0102. 4/ BEGINNING OF NEXT EVENT.



TREYNOR, IOWA WATERSHED 2

| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                    |                                           |                |                      | TREYNOR, IOWA WATERSHED 3<br>AREA—107 ACRES |                |                |                 |                  |              | 71.03      |               |        |              |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-------------------------------------------|----------------|----------------------|---------------------------------------------|----------------|----------------|-----------------|------------------|--------------|------------|---------------|--------|--------------|--------|
| MONTH<br>YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | JAN                  | FEB                | MAR                                       | APR            | MAY                  | JUNE                                        | JULY           | AUG            | SEPT            | OCT              | NOV          | DEC        | ANNUAL        |        |              |        |
| 1965 P 1/<br>Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | .42<br>.13           | 1.69<br>1.51       | 1.65<br>1.98                              | 4.28<br>.83    | 6.39<br>.49          | 8.28<br>.85                                 | 3.32<br>.45    | 2.74<br>.24    | 11.90<br>1.00   | 1.05<br>.72      | 1.57<br>.61  | .99<br>.41 | 44.28<br>9.22 |        |              |        |
| STA AV 2/P<br>(64-65) Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .36<br>.11           | .94<br>.80         | 1.37<br>1.04                              | 4.66<br>.51    | 5.76<br>.44          | 8.20<br>.68                                 | 3.37<br>.46    | 3.88<br>.23    | 7.42<br>.64     | .85<br>.45       | 1.22<br>.38  | .84<br>.27 | 38.87<br>6.01 |        |              |        |
| MEAN P 3/<br>95 YR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | .72                  | .92                | 1.43                                      | 2.62           | 3.74                 | 4.63                                        | 3.70           | 3.47           | 3.12            | 2.03             | 1.19         | .86        | 28.43         |        |              |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                    |                                           |                |                      |                                             |                |                |                 |                  |              |            |               |        |              |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | MAXIMUM<br>DISCHARGE |                    | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |                |                      |                                             |                |                |                 |                  |              |            |               |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                    | 1 HOUR                                    |                | 2 HOURS              |                                             | 6 HOURS        |                | 12 HOURS        |                  | 1 DAY        |            | 2 DAYS        |        | 8 DAYS       |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | DATE                 | RATE               | DATE                                      | VOLUME         | DATE                 | VOLUME                                      | DATE           | VOLUME         | DATE            | VOLUME           | DATE         | VOLUME     | DATE          | VOLUME | DATE         | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 4-5                  | .31                | 4-5                                       | .22            | 2-28                 | .37                                         | 2-28           | .82            | 2-28            | 1.04             | 2-28         | 1.34       | 2-27          | 1.54   | 2-27         | 1.60   |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |                    |                                           |                |                      |                                             |                |                |                 |                  |              |            |               |        |              |        |
| 1964 TO<br>1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4-5<br>1965          | .31                | 4-5<br>1965                               | .22            | 2-28<br>1965         | .37                                         | 2-28<br>1965   | .82            | 2-28<br>1965    | 1.04             | 2-28<br>1965 | 1.34       | 2-27<br>1965  | 1.54   | 2-27<br>1965 | 1.60   |
| NOTES: Watershed conditions: 96% permanent pasture with controlled grazing; 4% gravel roads and farmstead.<br>1/ Precipitation: Jan. 1-Apr. 9, arithmetic average of gages 112 and 113; Nov. 27-Dec. 31, arithmetic average of gages 113 and 114; Thiessen average of gages 112, 113 and 114 for remainder of year. 2/ Precipitation records from Jan. 1, 1964. Runoff records began Jan. 2, 1964. Jan. 1, 1964 runoff estimated and included in average. 3/ Mean P based on 95-yr (1871-1965) U. S. Weather Bureau record period at Omaha, Nebr. |                      |                    |                                           |                |                      |                                             |                |                |                 |                  |              |            |               |        |              |        |
| 1965 SELECTED RUNOFF EVENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |                    |                                           |                |                      | TREYNOR, IOWA WATERSHED 3                   |                |                |                 |                  |              | 71.03      |               |        |              |        |
| ANTECEDENT CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                    | RAINFALL                                  |                |                      |                                             | RUNOFF         |                |                 |                  |              |            |               |        |              |        |
| DATE<br>MO-DAY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY                            | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches)                            | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(in/hr) | ACC.<br>(inches) |              |            |               |        |              |        |
| 3 RG 4/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |                    | Event of June 29, 1965                    |                |                      |                                             |                |                |                 |                  |              |            |               |        |              |        |
| 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0186              | 6-29                                      | RG             | 113                  |                                             | 6-29           | 0110           | .0269           | .0000            |              |            |               |        |              |        |
| 5-31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0186              |                                           | 0050           | .00                  | .00                                         |                | 0114           | .0296           | .0019            |              |            |               |        |              |        |
| 6-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .25                  | .0188              |                                           | 0107           | .49                  | .14                                         |                | 0116           | .0348           | .0030            |              |            |               |        |              |        |
| 6-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .47                  | .0171              |                                           | 0114           | 2.22                 | .40                                         |                | 0120           | .0468           | .0057            |              |            |               |        |              |        |
| 6-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .00                  | .0162              |                                           | 0119           | 2.52                 | .61                                         |                | 0122           | .0601           | .0075            |              |            |               |        |              |        |
| 6-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .65                  | .0227              |                                           | 0128           | 1.27                 | .80                                         |                | 0124           | .0789           | .0098            |              |            |               |        |              |        |
| 6-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .34                  | .0183              |                                           | 0135           | 1.55                 | .98                                         |                | 0126           | .0972           | .0127            |              |            |               |        |              |        |
| 6-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .49                  | .0231              |                                           | 0200           | .14                  | 1.04                                        |                | 0128           | .116            | .0162            |              |            |               |        |              |        |
| 6-7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .24                  | .0183              |                                           | 0240           | .18                  | 1.16                                        |                | 0132           | .134            | .0246            |              |            |               |        |              |        |
| 6-8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .00                  | .0174              |                                           |                |                      |                                             |                | 0135           | .154            | .0318            |              |            |               |        |              |        |
| 6-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .08                  | .0174              |                                           | RG             | 112                  | 1.19                                        |                |                |                 |                  |              |            |               |        |              |        |
| 6-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0186              |                                           | RG             | 114                  | 1.10                                        |                | 0136           | .168            | .0345            |              |            |               |        |              |        |
| 6-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0186              |                                           |                |                      |                                             |                | 0139           | .188            | .0434            |              |            |               |        |              |        |
| 6-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .03                  | .0186              |                                           | 3 RG           | AVG 4/               | 1.15                                        |                | 0141           | .194            | .0497            |              |            |               |        |              |        |
| 6-13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .16                  | .0186              |                                           |                |                      |                                             |                | 0144           | .200            | .0596            |              |            |               |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                    |                                           |                |                      |                                             |                | 0148           | .200            | .0729            |              |            |               |        |              |        |
| 6-14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0174              |                                           |                |                      |                                             |                | 0154           | .197            | .0927            |              |            |               |        |              |        |
| 6-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0174              |                                           |                |                      |                                             |                | 0202           | .165            | .1169            |              |            |               |        |              |        |
| 6-16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0180              |                                           |                |                      |                                             |                | 0208           | .136            | .1320            |              |            |               |        |              |        |
| 6-17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0192              |                                           |                |                      |                                             |                | 0211           | .114            | .1382            |              |            |               |        |              |        |
| 6-18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0192              |                                           |                |                      |                                             |                | 0214           | .0972           | .1435            |              |            |               |        |              |        |
| 6-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0174              |                                           |                |                      |                                             |                | 0218           | .0772           | .1493            |              |            |               |        |              |        |
| 6-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .02                  | .0174              |                                           |                |                      |                                             |                | 0222           | .0643           | .1540            |              |            |               |        |              |        |
| 6-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0168              |                                           |                |                      |                                             |                | 0225           | .0545           | .1570            |              |            |               |        |              |        |
| 6-22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0162              |                                           |                |                      |                                             |                | 0227           | .0516           | .1587            |              |            |               |        |              |        |
| 6-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0162              |                                           |                |                      |                                             |                | 0229           | .0516           | .1605            |              |            |               |        |              |        |
| 6-24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00                  | .0162              |                                           |                |                      |                                             |                | 0231           | .0434           | .1620            |              |            |               |        |              |        |
| 6-25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .66                  | .0168              |                                           |                |                      |                                             |                | 0234           | .0358           | .1640            |              |            |               |        |              |        |
| 6-26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .53                  | .0174              |                                           |                |                      |                                             |                | 0237           | .0286           | .1656            |              |            |               |        |              |        |
| 6-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.30                 | .0932              |                                           |                |                      |                                             |                | 0242           | .0217           | .1677            |              |            |               |        |              |        |
| 6-28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.12                 | .0274              |                                           |                |                      |                                             |                | 0245           | .0171           | .1687            |              |            |               |        |              |        |
| 6-29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2/ .38               | 5/ .0493           |                                           |                |                      |                                             |                | 0249           | .0139           | .1697            |              |            |               |        |              |        |
| Watershed conditions:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                    |                                           |                |                      |                                             |                | 0300           | .0088           | .1718            |              |            |               |        |              |        |
| 96% - good pasture, mostly greater than 4 in. tall;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                    |                                           |                |                      |                                             |                | 0306           | .0068           | .1726            |              |            |               |        |              |        |
| 4% - gravel roads and farmstead.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                    |                                           |                |                      |                                             |                | 0330           | .0032           | .1746            |              |            |               |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                    |                                           |                |                      |                                             |                | 0400           | .0014           | .1757            |              |            |               |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                    |                                           |                |                      |                                             |                | 0430           | .0010           | .1763            |              |            |               |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                    |                                           |                |                      |                                             |                | 0500           | .0008           | .1767            |              |            |               |        |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                    |                                           |                |                      |                                             |                | 0530           | .0007           | .1771            |              |            |               |        |              |        |
| NOTES: TO CONVERT RUNOFF IN IN/HR TO CFS, MULTIPLY BY 107.89. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 71.3-4. 4/ THIESSEN AVERAGE OF 3 RECORDING RAIN GAGES. 5/ RAINFALL FROM 0001 TO 0050. 6/ RUNOFF PRIOR TO 0110. 7/ RETURN TO NEAR BASE FLOW.                                                                                                                                                                                     |                      |                    |                                           |                |                      |                                             |                |                |                 |                  |              |            |               |        |              |        |

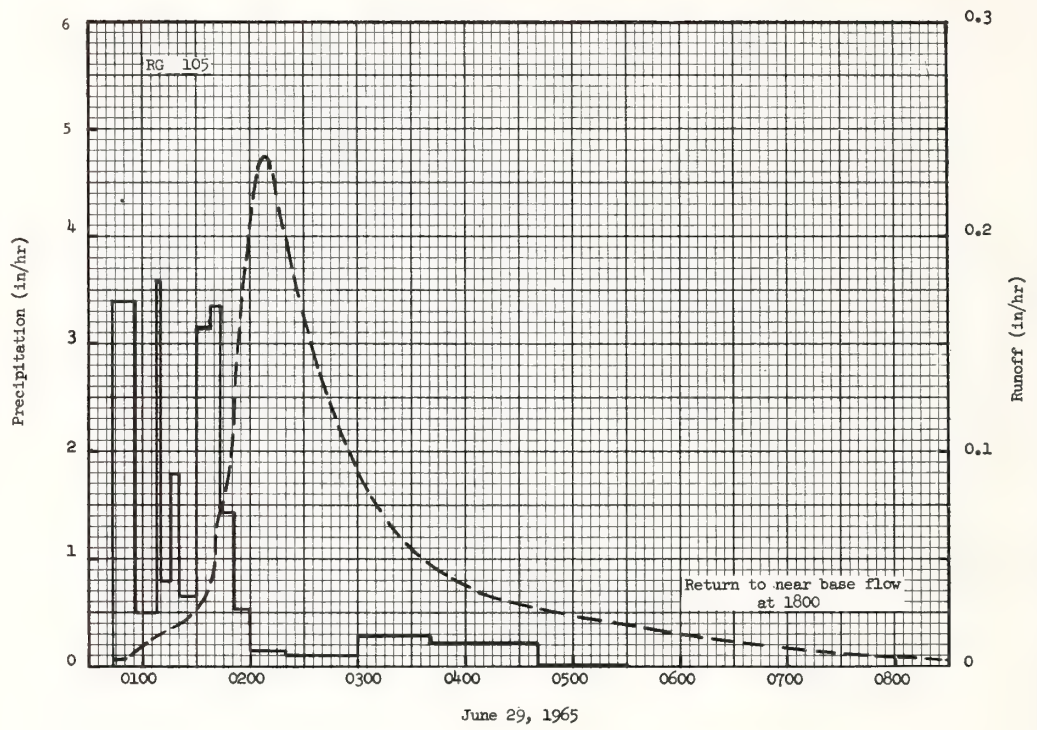


TREYNOR, IOWA WATERSHED 3



| MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                                           |             |             | TREYNOR, IOWA WATERSHED 4<br>AREA—150 ACRES |              |             |               |              |             |            |                | 71.04  |        |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|-------------------------------------------|-------------|-------------|---------------------------------------------|--------------|-------------|---------------|--------------|-------------|------------|----------------|--------|--------|--------|
| MONTH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | JAN               | FEB         | MAR                                       | APR         | MAY         | JUNE                                        | JULY         | AUG         | SEPT          | OCT          | NOV         | DEC        | ANNUAL         |        |        |        |
| 1965 P 1/<br>Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .42<br>.44        | 1.70<br>.80 | 1.65<br>2.01                              | 4.31<br>.92 | 6.27<br>.91 | 8.23<br>1.27                                | 3.29<br>1.44 | 2.72<br>.78 | 12.62<br>1.45 | 1.10<br>1.35 | 1.58<br>.92 | .98<br>.78 | 44.87<br>13.07 |        |        |        |
| STA AV 2/P<br>(64-65) Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .36<br>.29        | .95<br>.47  | 1.36<br>1.09                              | 4.63<br>.56 | 5.70<br>.75 | 8.26<br>1.33                                | 3.51<br>1.23 | 3.78<br>.72 | 8.34<br>1.04  | .88<br>.96   | 1.22<br>.72 | .84<br>.58 | 39.83<br>9.74  |        |        |        |
| MEAN P 3/<br>95 YR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .72               | .92         | 1.43                                      | 2.62        | 3.74        | 4.63                                        | 3.70         | 3.47        | 3.12          | 2.03         | 1.19        | .86        | 28.43          |        |        |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |             |                                           |             |             |                                             |              |             |               |              |             |            |                |        |        |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MAXIMUM DISCHARGE |             | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |             |             |                                             |              |             |               |              |             |            |                |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |             | 1 HOUR                                    |             | 2 HOURS     |                                             | 6 HOURS      |             | 12 HOURS      |              | 1 DAY       |            | 2 DAYS         |        | 8 DAYS |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DATE              | RATE        | DATE                                      | VOLUME      | DATE        | VOLUME                                      | DATE         | VOLUME      | DATE          | VOLUME       | DATE        | VOLUME     | DATE           | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6-29              | .12         | 4-5                                       | .08         | 4-5         | .14                                         | 2-28         | .35         | 2-28          | .50          | 2-28        | .65        | 2-28           | .76    | 3-9    | 1.01   |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |             |                                           |             |             |                                             |              |             |               |              |             |            |                |        |        |        |
| 1964 TO<br>1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6-22              | .24         | 6-22                                      | .17         | 6-22        | .20                                         | 2-28         | .35         | 2-28          | .50          | 2-28        | .65        | 2-28           | .76    | 3-9    | 1.01   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1964              |             | 1964                                      |             | 1964        |                                             | 1965         |             | 1965          |              | 1965        |            | 1965           |        | 1965   |        |
| NOTES: Watershed conditions: 82% contour corn above level terraces which have a capacity of 2 in. of runoff; 7% contour corn below the bottom terraces; 10% grassed terrace back-slopes; 1% gully. 1/ Precipitation: Jan. 1-Apr. 9, arithmetic average of gages 112 and 113; Nov. 27-Dec. 31 from gage 113; Thiessen average of gages 111, 112 and 113 for remainder of year. 2/ Precipitation records from Jan. 1, 1964. Runoff records began Feb. 27, 1964. Jan. 1-Feb. 27, 1964 runoff estimated and included in average. 3/ Mean P based on 95-yr (1871-1965) U. S. Weather Bureau record period at Omaha, Nebr. |                   |             |                                           |             |             |                                             |              |             |               |              |             |            |                |        |        |        |
| NOTES: NO SUITABLE SELECTED EVENT TO REPORT. FOR TOPOGRAPHIC MAP OF WATERSHED, SEE HYDROLOGIC DATA FOR EXPERIMENTAL AGRICULTURAL WATERSHEDS IN THE UNITED STATES, 1964, USDA MISC. PUB. 1194, P. 71.4-4.                                                                                                                                                                                                                                                                                                                                                                                                             |                   |             |                                           |             |             |                                             |              |             |               |              |             |            |                |        |        |        |





TREYNOR, IOWA WATERSHED 5

## COTTONWOOD, SOUTH DAKOTA WATERSHED H-2

**LOCATION:** Jackson County, S. Dak.; approximately 3 mi. east southeast of Cottonwood, Bad River Basin.

**AREA:** 2.13 acres

|                |                        |            |            |
|----------------|------------------------|------------|------------|
| <b>SLOPES:</b> | <b>Slope--Percent</b>  | <b>2-6</b> | <b>6-9</b> |
|                | <b>Percent of area</b> | <b>28</b>  | <b>72</b>  |

**SOILS:** Residual, zonal, derived from Pierre shale.

| Type <sup>1/</sup>          | Percent<br>of<br>area | Topsoil                                               |                                             | Subsoil                                                                |                                                       | Substratum                     |                         | Internal<br>drainage |
|-----------------------------|-----------------------|-------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------|-------------------------|----------------------|
|                             |                       | Avg. :<br>depth :<br>Structure :<br>Perme-<br>ability | Structure :<br>Perme-<br>ability            | Avg. :<br>depth :<br>Structure :<br>Perme-<br>ability                  | Avg. :<br>depth :<br>Structure :<br>Perme-<br>ability |                                |                         |                      |
| Kyle clay,<br>gilgai        | 30                    | 5"                                                    | Weak :<br>very fine :<br>granular :<br>Slow | Weak prismatic :<br>fine blocky :<br>Very<br>slow                      | 40'+                                                  | Very :<br>slow to :<br>slow    | Very slow               |                      |
| Kyle-Pierre<br>clay, gilgai | 59                    | 5"                                                    | Weak :<br>very fine :<br>granular :<br>Slow | Weak prismatic :<br>fine blocky :<br>Very<br>slow                      | 35"                                                   | Very :<br>slow                 | Very slow               |                      |
| Fort Collins<br>loam        | 11                    | 3"                                                    | Weak :<br>fine :<br>granular :<br>Moderate  | Weak medium :<br>and fine :<br>subangular :<br>Moder-<br>ately<br>slow | 18"                                                   | Moderate :<br>Moderate<br>slow | Moder-<br>ately<br>slow |                      |

|                 |                        |           |           |
|-----------------|------------------------|-----------|-----------|
| <b>EROSION:</b> | <b>Erosion Class</b>   | <b>1</b>  | <b>2</b>  |
|                 | <b>Percent of area</b> | <b>89</b> | <b>11</b> |

|                         |                        |            |            |             |
|-------------------------|------------------------|------------|------------|-------------|
| <b>LAND CAPABILITY:</b> | <b>Class</b>           | <b>IVa</b> | <b>VIe</b> | <b>IIIe</b> |
|                         | <b>Percent of area</b> | <b>30</b>  | <b>59</b>  | <b>11</b>   |

**GEOLOGY:** The entire watershed is Pierre shale of upper Cretaceous period and is about 1330 feet thick. Soil depths range from 12 inches to 40 inches to shale. The ground water table is too deep to affect the runoff from the watershed.

**SURFACE DRAINAGE:** Good; two diversions are used to bring runoff through the gaging station.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Runoff: H-2 flume equipped with FW-1 recorder, with 12-hr. time scale. Precipitation: Mean of four recording rain gages, two with 12-hr. time scales and two with 192-hr. time scales.

**WATERSHED CONDITIONS:** 100% rangeland with controlled heavy grazing. The predominant species are: blue grama, buffalograss, Sandberg bluegrass, needleleaf sedge, western wheatgrass, green needlegrass, needleandthread, and little bluestem.

|                               |                          |              |             |             |
|-------------------------------|--------------------------|--------------|-------------|-------------|
| <b>Cover</b>                  | <b>Grasses and forbs</b> | <b>Mulch</b> | <b>Rock</b> | <b>Bare</b> |
| <b>Percent of area (1963)</b> | <b>74.4</b>              | <b>14.8</b>  | <b>1.1</b>  | <b>9.7</b>  |
| <b>Percent of area (1965)</b> | <b>83.9</b>              | <b>9.6</b>   | <b>0.7</b>  | <b>5.8</b>  |

**GENERALLY REPRESENTS:** Rangelands in Pierre Shale Plains, particularly in the 15-19 inch precipitation area. Pierre Shale Plains and Badlands land research area (G-60).

**NOTES:** 1/ Tentative names from Mr. Mike Stout, State Soil Scientist, Soil Conservation Service, Huron, S. D.

| MONTHLY PRECIPITATION AND RUNOFF (inches) |                               |     |     |     |      | COTTONWOOD, SOUTH DAKOTA WATERSHED H-2 |      |      |      |      |     |     |     | 72.01  |
|-------------------------------------------|-------------------------------|-----|-----|-----|------|----------------------------------------|------|------|------|------|-----|-----|-----|--------|
| YEAR                                      | MONTH                         | JAN | FEB | MAR | APR  | MAY                                    | JUNE | JULY | AUG  | SEPT | OCT | NOV | DEC | ANNUAL |
| 1963                                      | P <sup>2</sup> / <sub>Q</sub> | .41 | .21 | .27 | 1.03 | 5.11                                   | 3.89 | 1.99 | .35  | 1.05 | .74 | .03 | .11 | 15.19  |
|                                           | Q                             | .00 | .00 | .00 | .00  | 1.13                                   | .30  | .09  | .00  | .00  | .00 | .00 | .00 | 1.52   |
| 1964                                      | P <sup>2</sup> / <sub>Q</sub> | .13 | .04 | .40 | 2.75 | 2.44                                   | 5.11 | .97  | 1.19 | .14  | T   | .05 | .56 | 13.78  |
|                                           | Q                             | .00 | .00 | .00 | .01  | .04                                    | .65  | .02  | .00  | .00  | .00 | .00 | .00 | 0.72   |
| 1965                                      | P <sup>2</sup> / <sub>Q</sub> | .29 | .03 | .46 | 1.65 | 5.29                                   | 3.01 | .90  | 1.04 | 1.27 | .55 | .28 | .50 | 15.27  |
|                                           | Q                             | .00 | .00 | .00 | .00  | .13                                    | .00  | .00  | .00  | .00  | .00 | .00 | .00 | 0.13   |
| STA AVG. (63-65)                          | P <sup>3</sup> / <sub>Q</sub> | .28 | .09 | .38 | 1.81 | 4.28                                   | 4.00 | 1.29 | .86  | .82  | .43 | .12 | .39 | 14.75  |
|                                           | Q                             | .00 | .00 | .00 | T    | .43                                    | .32  | .04  | .00  | .00  | .00 | .00 | .00 | 0.79   |
| MEAN P (4/)                               |                               | .44 | .38 | .73 | 1.73 | 2.84                                   | 2.91 | 1.84 | 1.56 | 1.08 | .91 | .41 | .35 | 15.18  |
| 56 YR.                                    |                               |     |     |     |      |                                        |      |      |      |      |     |     |     |        |

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

| YEAR | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |  |  |
|------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|--|--|
|      |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |  |  |
|      | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |  |  |
| 1963 | 5-30              | 3.58 | 5-30                                      | .61    | 5-30    | .63    | 5-30    | 1.13   | 5-30     | 1.13   | 5-30  | 1.13   | 5-30   | 1.13   | 5-30   | 1.14   |  |  |
| 1964 | 6-8               | 1.07 | 6-8                                       | .24    | 6-8     | .24    | 6-8     | .24    | 6-17     | .39    | 6-17  | .39    | 6-17   | .39    | 6-15   | .41    |  |  |
| 1965 | 5-14              | .08  | 5-14                                      | .05    | 5-24    | .07    | 5-24    | .07    | 5-24     | .07    | 5-24  | .07    | 5-23   | .07    | 5-23   | .07    |  |  |

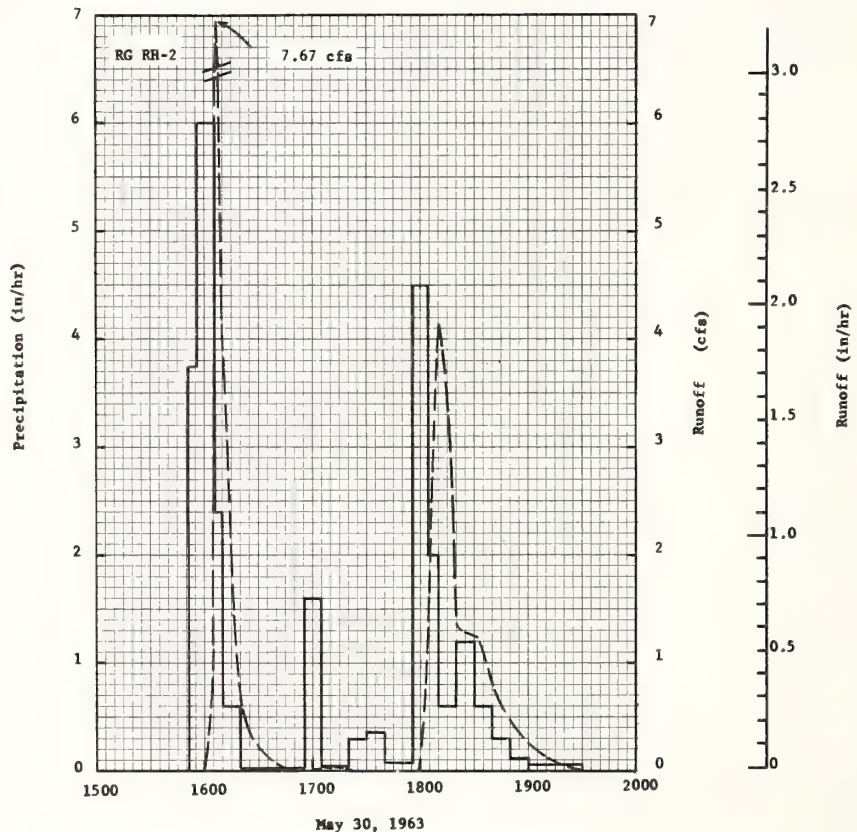
## MAXIMUMS FOR PERIOD OF RECORD

|              |           |      |           |     |           |     |           |      |           |      |           |      |           |      |           |      |           |      |
|--------------|-----------|------|-----------|-----|-----------|-----|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| 1963 TO 1964 | 5-30 1963 | 3.58 | 5-30 1963 | .61 | 5-30 1963 | .63 | 5-30 1963 | 1.13 | 5-30 1963 | 1.13 | 5-30 1963 | 1.13 | 5-30 1963 | 1.13 | 5-30 1963 | 1.13 | 5-30 1963 | 1.14 |
|--------------|-----------|------|-----------|-----|-----------|-----|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|

Notes: Watershed conditions: 100% heavily grazed rangeland, 1963 through 1965. Vegetative cover as determined August 8, 1963, late July, 1964 and August 8, 1965 was respectively, 360.3, 547.4, and 515.2 lbs./acre (oven-dry weight). 2/ Arithmetic mean of rain gages RH-1, RH-2, RH-3, and RH-4. 3/ Precipitation and runoff records began Jan. 1963. 4/ Mean P based on 56-yr. (1910-1965) U.S. Weather Bureau record period at Cottonwood, S.D.



| 1963                                                                                                                       |                      |                    | SELECTED RUNOFF EVENT |                |                      | COTTONWOOD, SOUTH DAKOTA |                |                | WATERSHED H-2 |                  |  | 72.01 |  |
|----------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-----------------------|----------------|----------------------|--------------------------|----------------|----------------|---------------|------------------|--|-------|--|
| ANTECEDENT CONDITIONS                                                                                                      |                      |                    | RAINFALL              |                |                      |                          | RUNOFF         |                |               |                  |  |       |  |
| DATE<br>MO-DAY                                                                                                             | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY        | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches)         | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |  |       |  |
| 4 RG 1/                                                                                                                    |                      |                    | Event of May 30, 1963 |                |                      |                          |                |                |               |                  |  |       |  |
|                                                                                                                            |                      |                    | RG RH-2               |                |                      |                          |                |                |               |                  |  |       |  |
| 5- 2                                                                                                                       | .07                  | .00                | 5-30                  | 1552           | .00                  | .00                      | 5-30           | 1600           | .00           | .00              |  |       |  |
| 5-10                                                                                                                       | .24                  | .00                |                       | 1556           | 3.75                 | .25                      |                | 1605           | 1.12          | .02              |  |       |  |
| 5-11                                                                                                                       | .45                  | .00                |                       | 1606           | 6.00                 | 1.25                     |                | 1607           | 7.67          | .09              |  |       |  |
| 5-12                                                                                                                       | .23                  | .00                |                       | 1610           | 2.40                 | 1.41                     |                | 1610           | 3.85          | .23              |  |       |  |
| 5-15                                                                                                                       | .05                  | .00                |                       | 1620           | .60                  | 1.51                     |                | 1620           | 1.12          | .42              |  |       |  |
| 5-25                                                                                                                       | .63                  | .00                |                       | 1656           | .02                  | 1.52                     |                | 1640           | .06           | .49              |  |       |  |
| 5-26                                                                                                                       | .22                  | .00                |                       | 1705           | 1.60                 | 1.76                     |                | 1650           | .00           | .49              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1720           | .04                  | 1.77                     |                | 1700           | .00           | .49              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1730           | .30                  | 1.82                     |                | 1705           | .04           | .49              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1740           | .36                  | 1.88                     |                | 1710           | .04           | .50              |  |       |  |
| Watershed conditions: 100% heavily grazed rangeland; vegetative cover on Aug. 8 was 360.3 lbs. per acre (oven-dry weight). |                      |                    |                       | 1756           | .08                  | 1.90                     |                | 1720           | .00           | .50              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1804           | 4.50                 | 2.50                     |                | 1758           | .00           | .50              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1810           | 2.00                 | 2.70                     |                | 1805           | 1.65          | .52              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1820           | .60                  | 2.80                     |                | 1811           | 4.12          | .66              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1830           | 1.20                 | 3.00                     |                | 1820           | 1.37          | .85              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1840           | .60                  | 3.10                     |                | 1824           | 1.29          | .89              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1850           | .30                  | 3.15                     |                | 1826           | 1.29          | .91              |  |       |  |
|                                                                                                                            |                      |                    |                       | 1900           | .12                  | 3.17                     |                | 1840           | .77           | 1.02             |  |       |  |
|                                                                                                                            |                      |                    |                       | 1930           | .06                  | 3.20                     |                | 1900           | .26           | 1.11             |  |       |  |
|                                                                                                                            |                      |                    |                       |                |                      |                          |                | 1910           | .11           | 1.12             |  |       |  |
|                                                                                                                            |                      |                    |                       | RG             | RH-1                 | 3.08                     |                | 1930           | .00           | 1.13             |  |       |  |
|                                                                                                                            |                      |                    |                       | RG             | RH-3                 | 3.17                     |                |                |               |                  |  |       |  |
|                                                                                                                            |                      |                    |                       | RG             | RH-4                 | 3.45                     |                |                |               |                  |  |       |  |
| NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.4656. 1/ ARITHMETIC MEAN OF RAIN GAGES RH-1, RH-2, RH-3 AND RH-4.            |                      |                    |                       |                |                      |                          |                |                |               |                  |  |       |  |

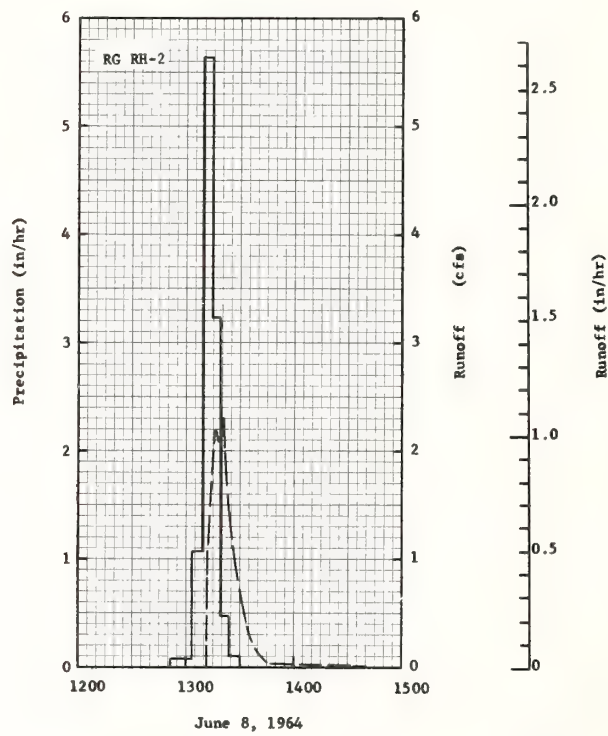
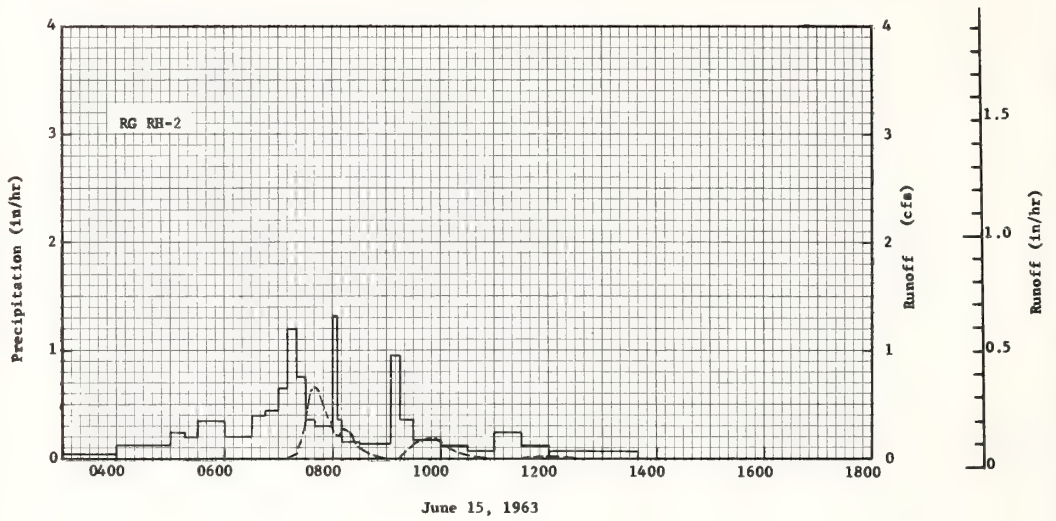


COTTONWOOD, SOUTH DAKOTA WATERSHED H-2

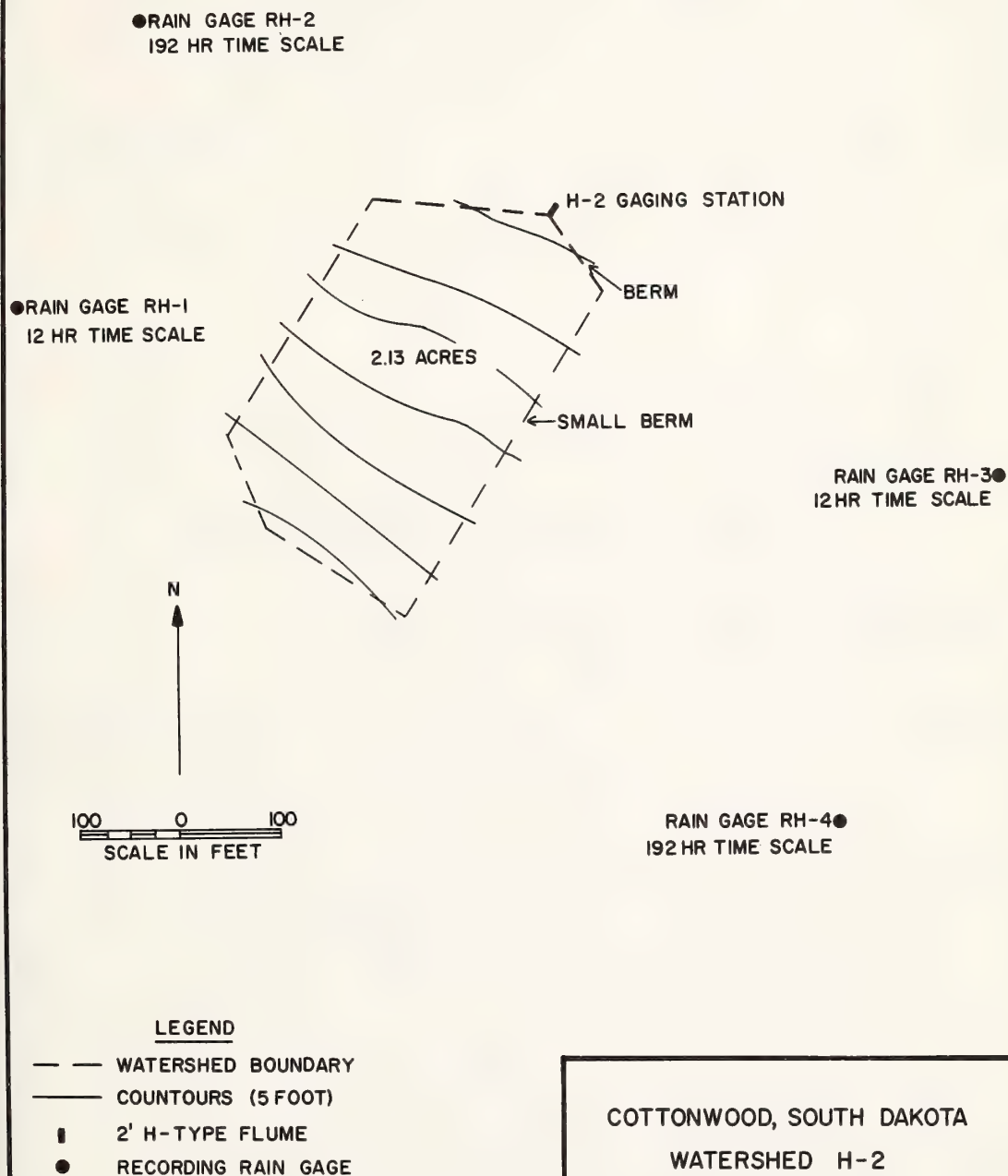
| 1963-64 SELECTED RUNOFF EVENT                                                                                                 |                      |                    | COTTONWOOD, SOUTH DAKOTA |                |                      |                  | WATERSHED R-2  |                |               | 72.01            |  |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------------|----------------|----------------------|------------------|----------------|----------------|---------------|------------------|--|
| ANTECEDENT CONDITIONS                                                                                                         |                      |                    | RAINFALL                 |                |                      |                  | RUNOFF         |                |               |                  |  |
| DATE<br>MO-DAY                                                                                                                | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY           | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |  |
| Event of June 15, 1963                                                                                                        |                      |                    |                          |                |                      |                  |                |                |               |                  |  |
| 4 RG 1/                                                                                                                       |                      |                    | RG                       | RH-2           |                      |                  |                |                |               |                  |  |
| 5-25                                                                                                                          | .63                  | .00                | 6-14                     | 2350           | .00                  | .00              | 6-15           | 0710           | .00           | .00              |  |
| 5-26                                                                                                                          | .22                  | .00                |                          |                |                      |                  |                | 0720           | .04           | .00              |  |
| 5-30                                                                                                                          | 3.23                 | 1.13               | 6-15                     | 0030           | .03                  | .02              |                | 0730           | .33           | .02              |  |
| 6- 1                                                                                                                          | .02                  | .00                |                          | 0100           | .06                  | .05              |                | 0733           | .55           | .03              |  |
| 6- 2                                                                                                                          | .30                  | .00                |                          | 0130           | .04                  | .07              |                | 0740           | .66           | .06              |  |
|                                                                                                                               |                      |                    |                          | 0200           | .04                  | .09              |                |                |               |                  |  |
| 6- 3                                                                                                                          | .02                  | .00                |                          | 0230           | .02                  | .10              |                | 0725           | .59           | .09              |  |
| 6- 4                                                                                                                          | .03                  | .00                |                          |                |                      |                  |                | 0750           | .46           | .11              |  |
| 6- 5                                                                                                                          | .06                  | .00                |                          | 0300           | .02                  | .11              |                | 0800           | .29           | .14              |  |
| 6- 6                                                                                                                          | .54                  | .00                |                          | 0330           | .04                  | .13              |                | 0805           | .21           | .15              |  |
| 6- 8                                                                                                                          | .03                  | .00                |                          | 0400           | .04                  | .15              |                | 0813           | .26           | .16              |  |
|                                                                                                                               |                      |                    |                          | 0430           | .12                  | .21              |                |                |               |                  |  |
| 6- 9                                                                                                                          | .02                  | .00                |                          | 0500           | .12                  | .27              |                | 0817           | .26           | .17              |  |
| 6-14                                                                                                                          | .01                  | .00                |                          |                |                      |                  |                | 0830           | .10           | .19              |  |
|                                                                                                                               |                      |                    |                          | 0515           | .24                  | .33              |                | 0840           | .04           | .19              |  |
|                                                                                                                               |                      |                    |                          | 0530           | .20                  | .38              |                | 0900           | .00           | .20              |  |
|                                                                                                                               |                      |                    |                          | 0545           | .36                  | .47              |                | 0913           | .00           | .20              |  |
|                                                                                                                               |                      |                    |                          | 0600           | .36                  | .56              |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 0630           | .20                  | .66              |                | 0920           | .05           | .20              |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                | 0930           | .14           | .21              |  |
|                                                                                                                               |                      |                    |                          | 0645           | .40                  | .76              |                | 0940           | .17           | .22              |  |
|                                                                                                                               |                      |                    |                          | 0700           | .44                  | .87              |                | 0948           | .19           | .23              |  |
|                                                                                                                               |                      |                    |                          | 0710           | .66                  | .98              |                | 0953           | .19           | .24              |  |
|                                                                                                                               |                      |                    |                          | 0720           | 1.20                 | 1.18             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 0728           | .75                  | 1.28             |                | 1000           | .14           | .25              |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1019           | .04           | .26              |  |
|                                                                                                                               |                      |                    |                          | 0740           | .35                  | 1.35             |                | 1050           | .00           | .26              |  |
|                                                                                                                               |                      |                    |                          | 0800           | .30                  | 1.45             |                | 1128           | .00           | .26              |  |
|                                                                                                                               |                      |                    |                          | 0805           | 1.32                 | 1.56             |                | 1141           | .01           | .27              |  |
|                                                                                                                               |                      |                    |                          | 0810           | .36                  | 1.59             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 0830           | .15                  | 1.64             |                | 1158           | .01           | .27              |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1240           | .00           | .27              |  |
|                                                                                                                               |                      |                    |                          | 0905           | .12                  | 1.71             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 0915           | .96                  | 1.87             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 0930           | .36                  | 1.96             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1000           | .18                  | 2.05             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1030           | .12                  | 2.11             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1100           | .08                  | 2.15             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1130           | .24                  | 2.27             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1200           | .12                  | 2.33             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1300           | .07                  | 2.40             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          | 1340           | .07                  | 2.45             |                |                |               |                  |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                |                |               |                  |  |
|                                                                                                                               |                      |                    | RG                       | RH-1           |                      | 2.51             |                |                |               |                  |  |
|                                                                                                                               |                      |                    | RG                       | RH-3           |                      | 2.51             |                |                |               |                  |  |
|                                                                                                                               |                      |                    | RG                       | RH-4           |                      | 2.60             |                |                |               |                  |  |
| Event of June 8, 1964                                                                                                         |                      |                    |                          |                |                      |                  |                |                |               |                  |  |
| 4 RG 1/                                                                                                                       |                      |                    | RG                       | RH-2           |                      |                  |                |                |               |                  |  |
| 5-10                                                                                                                          | .24                  | .00                | 6-8                      | 1252           | .00                  | .00              | 6-8            | 1312           | .00           | .00              |  |
| 5-11                                                                                                                          | .05                  | .00                |                          | 1304           | .08                  | .01              |                | 1313           | 1.09          | .00              |  |
| 5-15                                                                                                                          | .68                  | .04                |                          | 1309           | 1.08                 | .10              |                | 1317           | 2.19          | .06              |  |
| 5-28                                                                                                                          | .01                  | .00                |                          | 1314           | 5.64                 | .57              |                | 1318           | 2.09          | .07              |  |
| 5-29                                                                                                                          | .18                  | .00                |                          | 1319           | 3.24                 | .84              |                | 1320           | 2.30          | .11              |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                |                |               |                  |  |
| 5-31                                                                                                                          | .32                  | .00                |                          | 1324           | .48                  | .88              |                | 1325           | 1.15          | .17              |  |
| 6- 1                                                                                                                          | .13                  | .00                |                          | 1330           | .10                  | .89              |                | 1330           | .74           | .21              |  |
| 6- 5                                                                                                                          | .17                  | .00                |                          |                |                      |                  |                | 1334           | .35           | .23              |  |
| 6- 6                                                                                                                          | .03                  | .00                |                          |                |                      |                  |                | 1340           | .13           | .24              |  |
| 6- 7                                                                                                                          | .07                  | .00                |                          |                |                      |                  |                | 1345           | .03           | .24              |  |
|                                                                                                                               |                      |                    |                          |                |                      |                  |                |                |               |                  |  |
| 6- 8                                                                                                                          | .17                  | .00                |                          |                |                      |                  |                | 1440           | .00           | .24              |  |
|                                                                                                                               |                      |                    | RG                       | RH-3           |                      | .94              |                |                |               |                  |  |
| Watershed conditions: 100% heavily grazed rangeland; vegetative cover in late July was 547.4 lbs. per acre (oven-dry weight). |                      |                    |                          |                |                      |                  |                |                |               |                  |  |

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.4656. 1/ ARITHMETIC MEAN OF RAIN GAGES RH-1, RH-2, RH-3, AND RH-4.

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.4656. 1/ ARITHMETIC MEAN OF RAIN GAGES RH-1, RH-2, RH-3, AND RH-4.



COTTONWOOD, SOUTH DAKOTA WATERSHED H-2





## COTTONWOOD, SOUTH DAKOTA WATERSHED L-2

**LOCATION:** Jackson County, S. Dak.; approximately 3 mi. east southeast of Cottonwood, Bad River Basin.

**AREA:** 2.38 acres

| SLOPES: | Slope--Percent  | 2-6 | 6-9 | 9-15 |
|---------|-----------------|-----|-----|------|
|         | Percent of area | 20  | 35  | 45   |

**SOILS:** Residual, zonal, derived from Pierre shale.

| Type <sup>1/</sup>       | Percent of area | Topsoil        |                                    | Subsoil                                  |                  | Substratum          |                       | Internal drainage |
|--------------------------|-----------------|----------------|------------------------------------|------------------------------------------|------------------|---------------------|-----------------------|-------------------|
|                          |                 | Avg. : depth : | Perme- : Structure : ability       | Structure :                              | Perme- : ability | Avg. : depth : to : | Perme- : ability      |                   |
| Kyle clay, gilgai        | 35              | 5"             | Weak : very fine : granular : Slow | Weak prismatic : fine blocky :           | Very : slow      | 40"+ :              | Very : slow to : slow | Very slow         |
| Kyle-Pierre clay, gilgai | 50              | 5"             | Weak : very fine : granular : Slow | Weak prismatic : fine blocky :           | Very : slow      | 35" :               | Very : slow           | Very slow         |
| Samsil clay              | 15              | 2"             | Weak : very fine : granular : Slow | Weak, fine : granular and : subangular : | Slow             | 12" :               | None                  | Very slow         |

| EROSION: | Erosion Class   | 1  | 2  | 3  |
|----------|-----------------|----|----|----|
|          | Percent of area | 50 | 35 | 15 |

| LAND CAPABILITY: | Class           | IVs | VIe | VIe |
|------------------|-----------------|-----|-----|-----|
|                  | Percent of area | 35  | 50  | 15  |

**GEOLOGY:** The entire watershed is Pierre shale of upper Cretaceous period and is about 1330 feet thick. Soil depths range from 12 inches to 40 inches to shale. The ground water table is too deep to affect the runoff from the watershed.

**SURFACE DRAINAGE:** Good; two diversions are used to bring runoff through the gaging station.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Runoff: H-2 flume equipped with FW-1 recorder, with 12-hr. time scale. Precipitation: Mean of four recording rain gages, two with 12-hr. time scales and two with 192-hr. time scales.

**WATERSHED CONDITIONS:** 100% rangeland with controlled light grazing. The predominant species are: blue grama, buffalograss, Sandberg bluegrass, needleleaf sedge, western wheatgrass, green needlegrass, needleandthread, and little bluestem.

| Cover                  | Grasses and forbs | Mulch | Rock | Bare |
|------------------------|-------------------|-------|------|------|
| Percent of area (1963) | 64.0              | 30.7  | 0.8  | 4.5  |
| Percent of area (1965) | 66.0              | 24.9  | 1.2  | 7.9  |

**GENERALLY REPRESENTS:** Rangelands in Pierre Shale Plains, particularly in the 15-19 inch precipitation area. Pierre Shale Plains and Badlands land research area (G-60).

**NOTES:** <sup>1/</sup> Tentative names from Mr. Mike Stout, State Soil Scientist, SCS, Huron, S. D.

| MONTHLY PRECIPITATION AND RUNOFF (inches) |     |     |     |      |      | COTTONWOOD, SOUTH DAKOTA |      |      |      | WATERSHED L-2 |     |     |        | 72.02 |
|-------------------------------------------|-----|-----|-----|------|------|--------------------------|------|------|------|---------------|-----|-----|--------|-------|
| MONTH<br>YEAR                             | JAN | FEB | MAR | APR  | MAY  | JUNE                     | JULY | AUG  | SEPT | OCT           | NOV | DEC | ANNUAL |       |
| 1963 P <sub>2</sub>                       | .41 | .29 | .31 | 1.23 | 4.66 | 4.60                     | 1.94 | .39  | 1.17 | .70           | .04 | .12 | 15.86  |       |
| O <sub>2</sub>                            | .00 | .00 | .00 | .00  | .13  | 1.25                     | T    | .00  | .00  | .00           | .00 | .00 | 1.38   |       |
| 1964 P <sub>2</sub>                       | .14 | .06 | .43 | 2.82 | 2.39 | 4.88                     | .53  | 1.14 | .15  | T             | .07 | .40 | 13.01  |       |
| O <sub>2</sub>                            | .00 | .00 | .00 | .00  | T    | .04                      | .00  | .00  | .00  | .00           | .00 | .00 | 0.04   |       |
| 1965 P <sub>2</sub>                       | .29 | .03 | .37 | 1.52 | 5.60 | 2.91                     | 1.03 | 1.01 | 1.27 | .58           | .27 | .44 | 15.32  |       |
| O <sub>2</sub>                            | .00 | .00 | .00 | .00  | .14  | .00                      | .00  | .00  | .00  | .00           | .00 | .00 | 0.14   |       |
| STA AVG<br>(63-65) P <sub>2</sub>         | .28 | .13 | .37 | 1.86 | 4.22 | 4.13                     | 1.17 | .85  | .86  | .43           | .13 | .32 | 14.75  |       |
| MEAN<br>56 YR P <sub>4</sub>              | .44 | .38 | .73 | 1.73 | 2.84 | 2.91                     | 1.84 | 1.56 | 1.08 | .91           | .41 | .35 | 15.18  |       |

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

| YEAR | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
|      |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|      | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1963 | 6-15              | .54  | 6-15                                      | .38    | 6-15    | .54    | 6-15    | 1.07   | 6-15     | 1.16   | 6-15  | 1.24   | 6-15   | 1.24   | 6-15   | 1.24   |
| 1964 | 6-8               | .16  | 6-8                                       | .02    | 6-8     | .02    | 6-8     | .02    | 6-17     | .02    | 6-17  | .02    | 6-17   | .02    | 6-17   | .02    |
| 1965 | 5-24              | .03  | 5-24                                      | .02    | 5-24    | .05    | 5-24    | .09    | 5-24     | .10    | 5-24  | .10    | 5-24   | .10    | 5-24   | .10    |

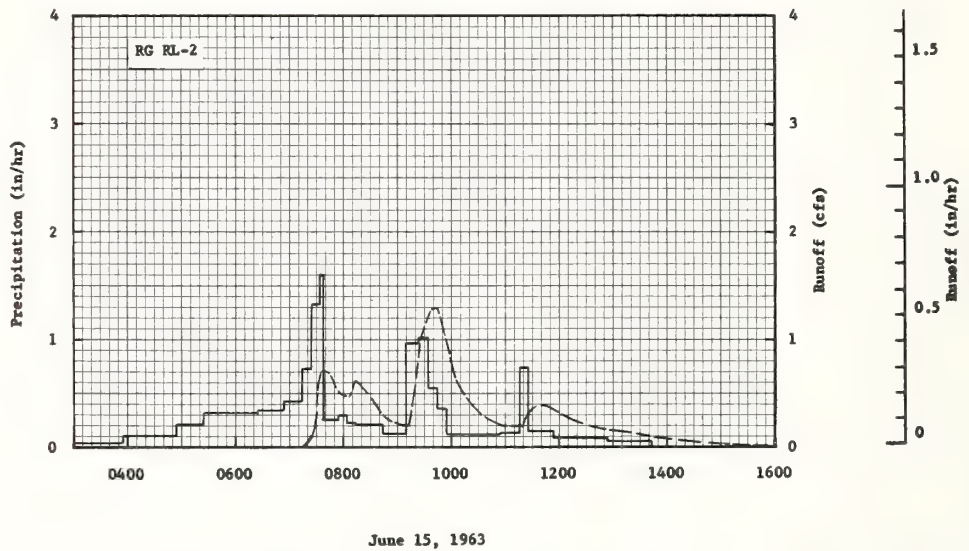
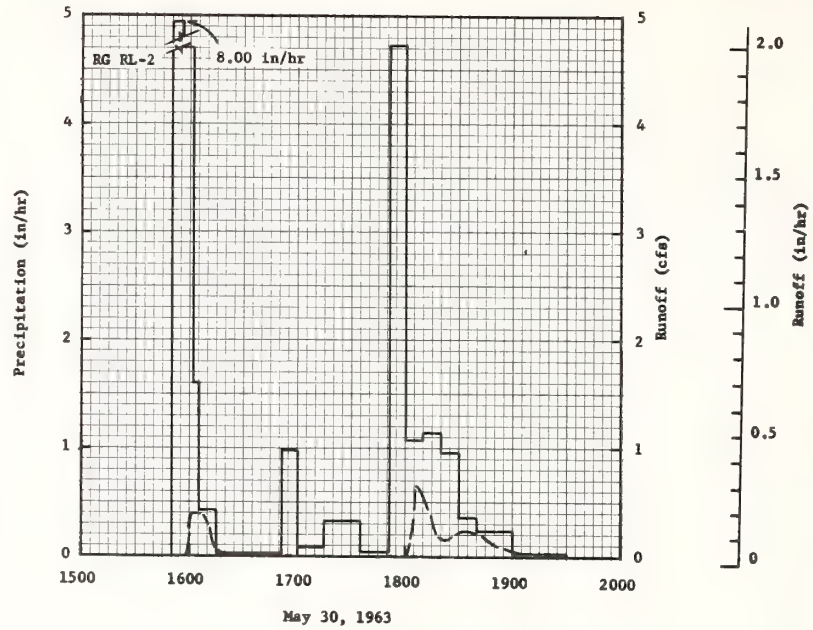
## MAXIMUMS FOR PERIOD OF RECORD

|                |           |     |           |     |           |     |           |      |           |      |           |      |           |      |           |      |
|----------------|-----------|-----|-----------|-----|-----------|-----|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| 19 63 TO 19 65 | 6-15 1963 | .54 | 6-15 1963 | .38 | 6-15 1963 | .54 | 6-15 1963 | 1.07 | 6-15 1963 | 1.16 | 6-15 1963 | 1.24 | 6-15 1963 | 1.24 | 6-15 1963 | 1.24 |
|----------------|-----------|-----|-----------|-----|-----------|-----|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|

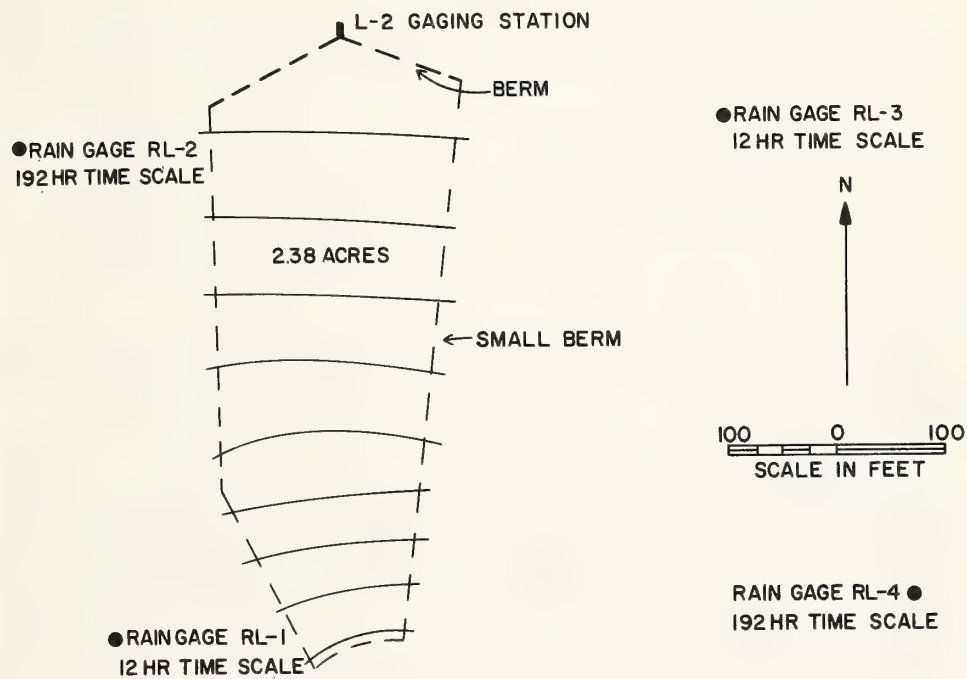
Notes: Watershed conditions: 100% lightly grazed rangeland. Vegetative cover on Aug. 8, 1963, late in July, 1964, and Aug. 8, 1965 was, respectively, 693.7, 1142.6, and 1083.4 lbs./ acre (oven dry weight). <sup>2/</sup> Arithmetic mean of rain gages RL-1, RL-2, RL-3 and RL-4. <sup>3/</sup> Precipitation and runoff began Jan. 1963. <sup>4/</sup> Mean P based on 56-yr. (1910-1965) U. S. Weather Bureau record period at Cottonwood, S. D.

| 1963 SELECTED RUNOFF EVENT                                                                                                                     |                      |                    | COTTONWOOD, SOUTH DAKOTA      |                |                      |                  | WATERSHED L-2  |                |               |                  | 72.02 |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-------------------------------|----------------|----------------------|------------------|----------------|----------------|---------------|------------------|-------|
| ANTECEDENT CONDITIONS                                                                                                                          |                      |                    | RAINFALL                      |                |                      |                  | RUNOFF         |                |               |                  |       |
| DATE<br>MO-DAY                                                                                                                                 | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY                | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |       |
|                                                                                                                                                |                      |                    | <u>Event of May 30, 1963</u>  |                |                      |                  |                |                |               |                  |       |
| 4 RG 1/                                                                                                                                        |                      |                    |                               |                |                      |                  |                |                |               |                  |       |
| 5-2                                                                                                                                            | .07                  | .00                | 5-30                          | RG             | RL-2                 | .00              | 5-30           | 1557           | .00           | .00              |       |
| 5-10                                                                                                                                           | .20                  | .00                |                               | 1550           | .00                  | .00              |                | 1602           | .39           | .01              |       |
| 5-11                                                                                                                                           | .43                  | .00                |                               | 1556           | 8.00                 | .80              |                | 1606           | .39           | .02              |       |
| 5-12                                                                                                                                           | .16                  | .00                |                               | 1602           | 4.70                 | 1.27             |                | 1615           | .04           | .03              |       |
| 5-15                                                                                                                                           | .05                  | .00                |                               | 1605           | 1.60                 | 1.35             |                | 1625           | .00           | .03              |       |
|                                                                                                                                                |                      |                    |                               | 1615           | .42                  | 1.42             |                |                |               |                  |       |
| 5-25                                                                                                                                           | .60                  | .00                |                               | 1652           | .02                  | 1.43             |                | 1800           | .00           | .03              |       |
| 5-26                                                                                                                                           | .18                  | .00                |                               | 1700           | .98                  | 1.56             |                | 1805           | .32           | .04              |       |
|                                                                                                                                                |                      |                    |                               | 1715           | .08                  | 1.58             |                | 1807           | .66           | .04              |       |
|                                                                                                                                                |                      |                    |                               | 1735           | .33                  | 1.69             |                | 1815           | .35           | .07              |       |
|                                                                                                                                                |                      |                    |                               | 1752           | .04                  | 1.70             |                | 1821           | .18           | .08              |       |
|                                                                                                                                                |                      |                    |                               | 1800           | 4.73                 | 2.33             |                | 1825           | .18           | .09              |       |
|                                                                                                                                                |                      |                    |                               | 1810           | 1.08                 | 2.51             |                | 1835           | .23           | .10              |       |
|                                                                                                                                                |                      |                    |                               | 1820           | 1.14                 | 2.70             |                | 1848           | .13           | .12              |       |
|                                                                                                                                                |                      |                    |                               | 1830           | .96                  | 2.86             |                | 1900           | .04           | .13              |       |
|                                                                                                                                                |                      |                    |                               | 1840           | .36                  | 2.92             |                | 1925           | .00           | .13              |       |
|                                                                                                                                                |                      |                    |                               | 1900           | .24                  | 3.00             |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | 1930           | .02                  | 3.01             |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | RG             | RL-1                 | 3.10             |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | RG             | RL-3                 | 2.92             |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | RG             | RL-4                 | 3.04             |                |                |               |                  |       |
| <u>Watershed conditions: 100%</u><br>lightly grazed rangeland;<br>vegetative cover on Aug. 8<br>was 693.7 lbs. per acre (oven-<br>dry weight). |                      |                    | <u>Event of June 15, 1963</u> |                |                      |                  |                |                |               |                  |       |
| 4 RG 1/                                                                                                                                        |                      |                    |                               |                |                      |                  |                |                |               |                  |       |
| 5-25                                                                                                                                           | .60                  | .00                | 6-14                          | RG             | RL-2                 | .00              | 6-15           | 0710           | .00           | .00              |       |
| 5-26                                                                                                                                           | .18                  | .00                |                               | 2240           | .00                  | .00              |                | 0715           | .01           | .00              |       |
| 5-30                                                                                                                                           | 2.97                 | .13                | 6-15                          | 2400           | .02                  | .02              |                | 0720           | .03           | .00              |       |
| 6-1                                                                                                                                            | .04                  | .00                |                               | 0053           | .02                  | .04              |                | 0725           | .11           | .00              |       |
| 6-2                                                                                                                                            | .41                  | .00                |                               | 0153           | .05                  | .09              |                | 0730           | .39           | .01              |       |
|                                                                                                                                                |                      |                    |                               | 0253           | .03                  | .12              |                |                |               |                  |       |
| 6-3                                                                                                                                            | .02                  | .00                |                               | 0353           | .03                  | .15              |                | 0734           | .71           | .03              |       |
| 6-5                                                                                                                                            | .13                  | .00                |                               | 0453           | .10                  | .25              |                | 0741           | .71           | .06              |       |
| 6-6                                                                                                                                            | .61                  | .00                |                               |                |                      |                  |                | 0746           | .61           | .09              |       |
| 6-8                                                                                                                                            | .05                  | .00                |                               | 0523           | .20                  | .35              |                | 0753           | .53           | .11              |       |
| 6-13                                                                                                                                           | .03                  | .00                |                               | 0553           | .32                  | .51              |                | 0809           | .48           | .17              |       |
|                                                                                                                                                |                      |                    |                               | 0623           | .32                  | .67              |                | 0812           | .61           | .18              |       |
| 6-14                                                                                                                                           | .01                  | .00                |                               | 0653           | .34                  | .84              |                | 0825           | .53           | .23              |       |
|                                                                                                                                                |                      |                    |                               | 0703           | .42                  | .91              |                | 0832           | .42           | .26              |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 0845           | .29           | .29              |       |
|                                                                                                                                                |                      |                    |                               | 0713           | .42                  | .98              |                | 0857           | .23           | .31              |       |
|                                                                                                                                                |                      |                    |                               | 0723           | .72                  | 1.10             |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | 0733           | 1.32                 | 1.32             |                | 0910           | .20           | .33              |       |
|                                                                                                                                                |                      |                    |                               | 0736           | 1.60                 | 1.40             |                | 0915           | .42           | .34              |       |
|                                                                                                                                                |                      |                    |                               | 0753           | .25                  | 1.47             |                | 0925           | .97           | .39              |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 0930           | 1.20          | .43              |       |
|                                                                                                                                                |                      |                    |                               | 0803           | .30                  | 1.52             |                | 0938           | 1.29          | .50              |       |
|                                                                                                                                                |                      |                    |                               | 0813           | .21                  | 1.65             |                | 0944           | 1.29          | .55              |       |
|                                                                                                                                                |                      |                    |                               | 0843           | .20                  | 1.75             |                | 0947           | 1.22          | .58              |       |
|                                                                                                                                                |                      |                    |                               | 0910           | .13                  | 1.81             |                | 0953           | 1.02          | .62              |       |
|                                                                                                                                                |                      |                    |                               | 0923           | .97                  | 2.02             |                | 1003           | .69           | .68              |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 1024           | .39           | .76              |       |
|                                                                                                                                                |                      |                    |                               | 0933           | 1.02                 | 2.19             |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | 0943           | .54                  | 2.28             |                | 1048           | .24           | .81              |       |
|                                                                                                                                                |                      |                    |                               | 0953           | .36                  | 2.34             |                | 1058           | .20           | .83              |       |
|                                                                                                                                                |                      |                    |                               | 1053           | .11                  | 2.45             |                | 1120           | .20           | .86              |       |
|                                                                                                                                                |                      |                    |                               | 1116           | .13                  | 2.50             |                | 1125           | .35           | .87              |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 1134           | .39           | .89              |       |
|                                                                                                                                                |                      |                    |                               | 1124           | .75                  | 2.60             |                | 1153           | .39           | .94              |       |
|                                                                                                                                                |                      |                    |                               | 1153           | .16                  | 2.68             |                | 1202           | .30           | .96              |       |
|                                                                                                                                                |                      |                    |                               | 1253           | .09                  | 2.77             |                | 1222           | .21           | 1.00             |       |
|                                                                                                                                                |                      |                    |                               | 1343           | .06                  | 2.82             |                | 1242           | .19           | 1.03             |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 1242           | .19           | 1.03             |       |
|                                                                                                                                                |                      |                    |                               | RG             | RL-1                 | 3.10             |                | 1319           | .13           | 1.07             |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                |                |               |                  |       |
|                                                                                                                                                |                      |                    |                               | RG             | RL-3                 | 2.92             |                | 1355           | .08           | 1.10             |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 1434           | .04           | 1.12             |       |
|                                                                                                                                                |                      |                    |                               | RG             | RL-4                 | 3.04             |                | 1538           | .01           | 1.13             |       |
|                                                                                                                                                |                      |                    |                               |                |                      |                  |                | 1602           | .00           | 1.14             |       |
| <u>Watershed conditions: 100%</u><br>lightly grazed rangeland;<br>vegetative cover on Aug. 8<br>was 693.7 lbs. per acre (oven-<br>dry weight). |                      |                    |                               |                |                      |                  |                |                |               |                  |       |

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.4167. 1/ ARITHMETIC MEAN OF RAIN GAGES RL-1, RL-2, RL-3 AND RL-4.



COTTONWOOD, SOUTH DAKOTA WATERSHED L-2



# LEGEND

- — WATERSHED BOUNDARY
- COUNTOURS (5 FOOT)
- 2' H-TYPE FLUME
- RECORDING RAIN GAGE

COTTONWOOD, SOUTH DAKOTA  
WATERSHED L-2



## COTTONWOOD, SOUTH DAKOTA WATERSHED M-1

**LOCATION:** Jackson County, S. Dak.; approximately 3 mi. east southeast of Cottonwood, Bad River Basin.

**AREA:** 2.35 acres

**SLOPES:**

| Slope--Percent  | 2-6 | 6-9 |
|-----------------|-----|-----|
| Percent of area | 8   | 92  |

**SOILS:** Residual, zonal, derived from Pierre shale.

| Type 1/                  | Percent of area | Topsoil    |                             | Subsoil   |                                   | Substratum    |              | Internal drainage |
|--------------------------|-----------------|------------|-----------------------------|-----------|-----------------------------------|---------------|--------------|-------------------|
|                          |                 | Avg. depth | Permeability                | Structure | Permeability                      | Avg. depth to | Permeability |                   |
| Kyle-Pierre clay, gilgai | 75              | 5"         | Weak : very fine : granular | Slow      | Weak prismatic : fine blocky      | Very slow     | 35"          | Very slow         |
| Samsil clay              | 25              | 2"         | Weak : very fine : granular | Slow      | Weak fine : subangular : granular | Slow          | 12"          | None              |

**EROSION:**

| Erosion Class   | 1  | 2  |
|-----------------|----|----|
| Percent of area | 75 | 25 |

**LAND CAPABILITY:**

| Class           | V1e | V1s |
|-----------------|-----|-----|
| Percent of area | 75  | 25  |

**GEOLOGY:** The entire watershed is Pierre shale of upper Cretaceous period and is about 1330 feet thick. Soil depths range from 12 inches to 40 inches to shale. The ground water table is too deep to affect the runoff from the watershed.

**SURFACE DRAINAGE:** Good; two diversions are used to bring runoff through the gaging station.

**CHARACTER OF FLOW:** Ephemeral, continuous.

**INSTRUMENTATION:** Runoff: H-2 flume equipped with FW-1 recorder, with 12-hr. time scale. Precipitation: Mean of four recording rain gages, two with 12-hr. time scales and two with 192-hr. time scales.

**WATERSHED CONDITIONS:** 100% rangeland with controlled moderate grazing. The predominant species are: blue grama, buffalograss, Sandberg bluegrass, needleleaf sedge, western wheatgrass, green needlegrass, needleandthread, and little bluestem.

| Cover                  | Grasses and forbs | Mulch | Rock | Bare |
|------------------------|-------------------|-------|------|------|
| Percent of area (1963) | 72.0              | 12.0  | Tr   | 16.0 |
| Percent of area (1965) | 82.3              | 12.5  | 0.2  | 5.0  |

**GENERALLY REPRESENTS:** Rangelands in Pierre Shale Plains, particularly in the 15-19 inch precipitation area. Pierre Shale Plains and Badlands land research area (G-60).

**NOTES:** 1/ Tentative names from Mr. Mike Stout, State Soil Scientist, Soil Conservation Service, Huron, S. D.

| MONTHLY PRECIPITATION AND RUNOFF (inches) |     |     |     |      |      | COTTONWOOD, SOUTH DAKOTA WATERSHED M-1 |      |      |      |     |     |     |        |
|-------------------------------------------|-----|-----|-----|------|------|----------------------------------------|------|------|------|-----|-----|-----|--------|
| MONTH                                     | JAN | FEB | MAR | APR  | MAY  | JUNE                                   | JULY | AUG  | SEPT | OCT | NOV | DEC | ANNUAL |
| 1963 P <sup>2/</sup>                      | .32 | .21 | .30 | 1.03 | 4.78 | 4.15                                   | 1.88 | .38  | .97  | .80 | .03 | .13 | 14.98  |
| Q                                         | .00 | .00 | .00 | .00  | 1.12 | .46                                    | T    | .00  | .00  | .00 | .00 | .00 | 1.58   |
| 1964 P                                    | .12 | .04 | .41 | 2.69 | 2.47 | 5.10                                   | .98  | 1.22 | .15  | T   | .07 | .54 | 13.79  |
| Q                                         | .00 | .00 | .00 | .00  | .01  | .47                                    | T    | .00  | .00  | .00 | .00 | .00 | 0.48   |
| 1965 P                                    | .31 | .04 | .40 | 1.58 | 5.56 | 3.01                                   | .86  | 1.06 | 1.24 | .62 | .29 | .48 | 15.45  |
| Q                                         | .00 | .00 | .00 | .00  | .19  | .00                                    | .00  | .00  | .00  | .00 | .00 | .00 | 0.19   |
| STA AVG P <sup>3/</sup> (63-65)           | .25 | .10 | .37 | 1.77 | 4.27 | 4.09                                   | 1.24 | .89  | .79  | .47 | .13 | .38 | 14.75  |
| MEAN P <sup>4/</sup>                      | .00 | .00 | .00 | .00  | .44  | .31                                    | .00  | .00  | .00  | .00 | .00 | .00 | 0.75   |
| 56 YR.                                    | .44 | .38 | .73 | 1.73 | 2.84 | 2.91                                   | 1.84 | 1.56 | 1.08 | .91 | .41 | .35 | 15.18  |

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

| YEAR | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |      |         |      |        |         |        |      |          |      |        |
|------|-------------------|------|-------------------------------------------|--------|------|---------|------|--------|---------|--------|------|----------|------|--------|
|      |                   |      | 1 HOUR                                    |        |      | 2 HOURS |      |        | 6 HOURS |        |      | 12 HOURS |      |        |
|      | DATE              | RATE | DATE                                      | VOLUME | DATE | VOLUME  | DATE | VOLUME | DATE    | VOLUME | DATE | VOLUME   | DATE | VOLUME |
| 1963 | 5-30              | 2.03 | 5-30                                      | .71    | 5-30 | .76     | 5-30 | 1.12E  | 5-30    | 1.12E  | 5-30 | 1.12E    | 5-30 | 1.12E  |
| 1964 | 6-17              | .60  | 6-18                                      | .22    | 6-18 | .22     | 6-18 | .22    | 6-17    | .37    | 6-17 | .37      | 6-17 | .40    |
| 1965 | 5-24              | .07  | 5-24                                      | .06    | 5-24 | .10     | 5-24 | .14    | 5-24    | .14    | 5-24 | .14      | 5-23 | .14    |

## MAXIMUMS FOR PERIOD OF RECORD

|              |           |      |           |     |           |     |           |       |           |       |           |       |           |       |
|--------------|-----------|------|-----------|-----|-----------|-----|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
| 1963 to 1965 | 5-30 1963 | 2.03 | 5-30 1963 | .71 | 5-30 1963 | .76 | 5-30 1963 | 1.12E | 5-30 1963 | 1.12E | 5-30 1963 | 1.12E | 5-30 1963 | 1.12E |
|--------------|-----------|------|-----------|-----|-----------|-----|-----------|-------|-----------|-------|-----------|-------|-----------|-------|

Notes: Watershed conditions: 100% moderately grazed rangeland, 1963 through 1965. Vegetative cover as determined August 8, 1963, late July, 1964 and August 8, 1965 was, respectively, 457.0, 500.2, and 555.3 lbs./acre (oven-dry weight) 2/ Arithmetic mean of rain gages RM-1, RM-2, RM-3, and RM-4. 3/ Precipitation and runoff records began Jan. 1963. 4/ Mean P based on 56-yr. (1910-1965) U.S. Weather Bureau record period at Cottonwood, S.D.

| 1963 DAILY AIR TEMPERATURE (degrees F) |                                                                                                                     |      |      |      |      |      |      |      |      |      |      |      | COTTONWOOD, SOUTH DAKOTA |     |     |      |     |     |      |     |     |     |     |     |      | WATERSHED M-1 |  |     |     |  |     |     |  |     |  |  |  |  | 72.05 |  |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|--------------------------|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|------|---------------|--|-----|-----|--|-----|-----|--|-----|--|--|--|--|-------|--|
| DAY                                    | JAN                                                                                                                 |      |      | FEB  |      |      | MAR  |      |      | APR  |      |      | MAY                      |     |     | JUNE |     |     | JULY |     |     | AUG |     |     | SEPT |               |  | OCT |     |  | NOV |     |  | DEC |  |  |  |  |       |  |
|                                        | MAX                                                                                                                 | MIN  |      | MAX  | MIN  |      | MAX  | MIN  |      | MAX  | MIN  |      | MAX                      | MIN |     | MAX  | MIN |     | MAX  | MIN |     | MAX | MIN |     | MAX  | MIN           |  | MAX | MIN |  | MAX | MIN |  |     |  |  |  |  |       |  |
| 1                                      | 54                                                                                                                  | 17   | 53   | 8    | 46E  | 27   | 56   | 40   | 82   | 41   | 81   | 55   | 86                       | 59  | 99  | 64   | 78  | 60  | 91   | 54  | 54  | 22  | 44  | 21  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 2                                      | 54E                                                                                                                 | 14   | 25   | -5   | 46E  | 23   | 40   | 28   | 72   | 41   | 83   | 53   | 87                       | 52  | 89  | 61   | 75  | 59  | 84   | 45  | 66  | 26  | 53  | 19  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 3                                      | 58E                                                                                                                 | 10   | 53   | 8    | 38E  | 21   | 44   | 21   | 75   | 42   | 79   | 58   | 91                       | 63  | 83  | 56   | 71  | 51  | 92   | 41  | 53  | 29  | 54  | 26  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 4                                      | 39E                                                                                                                 | 26   | 62   | 35   | 38E  | 21   | 61   | 9    | 63   | 37   | 86   | 54   | 83                       | 67  | 92  | 59   | 80  | 50  | 92   | 43  | 65  | 29  | 60  | 20  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 5                                      | 46E                                                                                                                 | 9    | 63   | 34   | 37E  | 28   | 67   | 26   | 76   | 40   | 85   | 59   | 93                       | 62  | 92  | 60   | 93  | 48  | 96   | 50  | 61  | 30  | 66  | 21  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 6                                      | 47E                                                                                                                 | 14   | 59   | 29   | 44E  | 31   | 75   | 35   | 87   | 43   | 82   | 54   | 96                       | 64  | 99  | 60   | 93  | 52  | 87   | 48  | 66  | 20  | 62  | 21  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 7                                      | 60E                                                                                                                 | 19   | 63   | 25   | 47E  | 23   | 69   | 46   | 91   | 48   | 80   | 56   | 97                       | 60  | 101 | 65   | 96  | 56  | 78   | 42  | 61  | 36  | 47  | 27  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 8                                      | 61E                                                                                                                 | 28   | 51   | 30   | 47E  | 20   | 67   | 45   | 77   | 47   | 83   | 60   | 98                       | 67  | 99  | 67   | 93  | 62  | 74   | 42  | 55  | 27  | 28  | 20  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 9                                      | 40E                                                                                                                 | 12   | 31   | 19   | 48E  | 26   | 56   | 38   | 87   | 46   | 76   | 58   | 97                       | 68  | 91  | 65   | 79  | 56  | 95   | 41  | 61  | 29  | 22  | 0   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 10                                     | 1E                                                                                                                  | -5   | 27   | 0    | 60E  | 15   | 55   | 27   | 64   | 27   | 76   | 52   | 98                       | 70  | 92  | 70   | 89  | 56  | 79   | 51  | 56  | 28  | 14  | -3  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 11                                     | -4E                                                                                                                 | -12  | 25   | -1   | 40   | 26   | 49   | 29   | 56   | 40   | 72   | 50   | 89                       | 65  | 97  | 73   | 89  | 57  | 73   | 35  | 54  | 31  | 11  | -4  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 12                                     | -1E                                                                                                                 | -16  | 40   | 5    | 36   | 24   | 57   | 21   | 62   | 42   | 85   | 52   | 88                       | 66  | 88  | 67   | 78  | 53  | 83   | 34  | 46  | 18  | 25  | -5  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 13                                     | 19E                                                                                                                 | -14  | 32   | 23   | 43   | 15   | 71   | 31   | 70   | 35   | 91   | 55   | 88                       | 61  | 80  | 48   | 86  | 56  | 78   | 46  | 40  | 11  | 6   | -5  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 14                                     | 6E                                                                                                                  | -20  | 34   | 18   | 58   | 8    | 83   | 37   | 66   | 39   | 80   | 60   | 91                       | 51  | 93  | 49   | 86  | 59  | 76   | 44  | 63  | 19  | 3   | -22 |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 15                                     | 6E                                                                                                                  | -23  | 37   | 9    | 63   | 35   | 77   | 46   | 62   | 40   | 75   | 61   | 89                       | 56  | 94  | 54   | 81  | 45  | 77   | 46  | 75  | 29  | 4   | -23 |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 16                                     | 18E                                                                                                                 | -15  | 48E  | 19   | 56   | 15   | 63   | 35   | 71   | 45   | 73   | 53   | 89                       | 65  | 90  | 59   | 88  | 55  | 72   | 40  | 57  | 34  | 13  | -5  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 17                                     | 31E                                                                                                                 | -4   | 54E  | 18   | 34   | 5    | 63   | 27   | 72   | 38   | 81   | 51   | 87                       | 61  | 81  | 54   | 86  | 58  | 75   | 37  | 52  | 22  | 13  | -4  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 18                                     | -1E                                                                                                                 | -18  | 49E  | 24   | 40   | 20   | 55   | 32   | 71   | 36   | 81   | 59   | 91                       | 64  | 91  | 56   | 78  | 54  | 86   | 34  | 56  | 22  | 16  | -24 |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 19                                     | 29E                                                                                                                 | -33  | 50E  | 24   | 48   | 26   | 54   | 28   | 63   | 42   | 90   | 54   | 91                       | 61  | 92  | 48   | 61  | 52  | 78   | 37  | 62  | 14  | 9   | -2  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 20                                     | 12E                                                                                                                 | -4   | 32E  | 8    | 48   | 27   | 49   | 29   | 61   | 35   | 85   | 57   | 99                       | 50  | 99  | 59   | 72  | 46  | 66   | 50  | 45  | 20  | 6   | 0   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 21                                     | 39E                                                                                                                 | 3    | 15E  | -14  | 64   | 19   | 48   | 29   | 55   | 25   | 91   | 53   | 97                       | 59  | 91  | 63   | 70  | 37  | 69   | 50  | 22  | 15  | 5   | 0   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 22                                     | 7E                                                                                                                  | -9   | 37E  | 9    | 69   | 31   | 40   | 30   | 65   | 20   | 92   | 65   | 98                       | 56  | 87  | 57   | 64  | 38  | 79   | 41  | 41  | 10  | 22  | 2   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 23                                     | 3E                                                                                                                  | -15  | 36E  | 7    | 76   | 32   | 57   | 27   | 72   | 28   | 86   | 68   | 96                       | 72  | 89  | 63   | 88  | 49  | 82   | 37  | 56  | 8   | 41  | 2   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 24                                     | 16E                                                                                                                 | -18  | 48E  | 18   | 74   | 35   | 65   | 26   | 81   | 40   | 92   | 69   | 98                       | 67  | 94  | 62   | 80  | 53  | 69   | 49  | 41  | 32  | 48  | 19  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 25                                     | 8E                                                                                                                  | -14  | 24E  | 10   | 57   | 38   | 67   | 30   | 84   | 51   | 93   | 63   | 108                      | 70  | 101 | 64   | 84  | 36  | 75   | 39  | 46  | 16  | 53  | 26  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 26                                     | 2E                                                                                                                  | -11  | 48E  | 19   | 68   | 23   | 65   | 35   | 65   | 48   | 89   | 49   | 89                       | 64  | 104 | 64   | 93  | 40  | 70   | 31  | 56  | 16  | 46  | 29  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 27                                     | 17                                                                                                                  | -25  | 39E  | 25   | 75   | 27   | 57   | 47   | 65E  | 48   | 89   | 53   | 73                       | 56  | 99  | 65   | 91  | 45  | 59   | 30  | 65  | 22  | 34  | 4   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 28                                     | 16                                                                                                                  | 0    | 46E  | 21   | 80   | 37   | 65   | 31   | 76E  | 49   | 94   | 62   | 86                       | 53  | 93  | 51   | 76  | 47  | 56   | 21  | 50  | 32  | 38  | 14  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 29                                     | 10                                                                                                                  | -8   | ---  | ---  | 76   | 30   | 62   | 36   | 81E  | 45   | 101  | 60   | 93                       | 54  | 83  | 48   | 81  | 32  | 66   | 31  | 53  | 14  | 28  | 13  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 30                                     | 8                                                                                                                   | -15  | ---  | ---  | 78   | 35   | 66   | 21   | 89E  | 37   | 89   | 53   | 88                       | 56  | 83  | 48   | 93  | 44  | 66   | 36  | 48  | 14  | 43  | 4   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| 31                                     | 30                                                                                                                  | -11  | ---  | ---  | 76   | 43   | ---  | ---  | 83E  | 40   | ---  | ---  | 93                       | 51  | 80  | 53   | --- | --- | 50   | 37  | --- | --- | 60  | 22  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| AV.                                    | 24                                                                                                                  | -4   | 42   | 15   | 55   | 25   | 60   | 31   | 72   | 40   | 85   | 57   | 92                       | 61  | 92  | 59   | 82  | 50  | 77   | 41  | 54  | 23  | 31  | 7   |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| MEAN                                   | 9.6                                                                                                                 | 28.7 | 40.4 | 45.8 | 56.1 | 70.8 | 76.4 | 75.5 | 66.3 | 58.6 | 38.4 | 19.1 |                          |     |     |      |     |     |      |     |     |     |     |     |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| STA AV                                 | 32                                                                                                                  | 6    | 36   | 9    | 46   | 19   | 61   | 32   | 71   | 42   | 81   | 53   | 91                       | 59  | 89  | 55   | 79  | 46  | 66   | 33  | 49  | 20  | 37  | 10  |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |
| NOTES:                                 | TEMPERATURE DATA FROM U. S. WEATHER BUREAU METEOROLOGICAL STATION AT COTTONWOOD, S. D. FOR 24 HOURS ENDING AT 1700. |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |      |     |     |      |     |     |     |     |     |      |               |  |     |     |  |     |     |  |     |  |  |  |  |       |  |

NOTES: TEMPERATURE DATA FROM U. S. WEATHER BUREAU METEOROLOGICAL STATION AT COTTONWOOD, S. D. FOR 24 HOURS ENDING AT 1700.

| 1964 DAILY AIR TEMPERATURE (degrees F) |                                                                                                                  |     |     |      |      |     |      |     |      |     |      |     | COTTONWOOD, SOUTH DAKOTA |     |      |      |      |     |      |     |      |     |      |     | WATERSHED M-1 |     |     |     |     |     |     |     |  |     |  |  | 72.05 |  |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------|-----|-----|------|------|-----|------|-----|------|-----|------|-----|--------------------------|-----|------|------|------|-----|------|-----|------|-----|------|-----|---------------|-----|-----|-----|-----|-----|-----|-----|--|-----|--|--|-------|--|
| DAY                                    | JAN                                                                                                              |     |     | FEB  |      |     | MAR  |     |      | APR |      |     | MAY                      |     |      | JUNE |      |     | JULY |     |      | AUG |      |     | SEPT          |     |     | OCT |     |     | NOV |     |  | DEC |  |  |       |  |
|                                        | MAX                                                                                                              | MIN | MAX | MIN  | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX                      | MIN | MAX  | MIN  | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX           | MIN | MAX | MIN | MAX | MIN | MAX | MIN |  |     |  |  |       |  |
| 1                                      | 56                                                                                                               | 26  | 51  | 17   | 55   | 17  | 83   | 30  | 62   | 44  | 59   | 39  | 84                       | 59  | 104  | 73   | 101  | 59  | 74   | 54  | 67   | 43  | 27   | 13  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 2                                      | 60                                                                                                               | 34  | 40  | 23   | 50   | 27  | 71   | 39  | 67   | 38  | 71   | 35  | 90                       | 58  | 99   | 72   | 88   | 58  | 76   | 31  | 72   | 40  | 13   | 4   |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 3                                      | 45                                                                                                               | 21  | 38  | 15   | 39   | 19  | 49   | 29  | 61   | 43  | 80   | 34  | 86                       | 57  | 100  | 61   | 79   | 40  | 66   | 48  | 57   | 37  | 10   | -4  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 4                                      | 40                                                                                                               | 27  | 58  | 18   | 42   | 15  | 48   | 25  | 71   | 41  | 78   | 48  | 91                       | 62  | 97   | 56   | 76   | 39  | 61   | 30  | 55   | 18  | 12   | 8   |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 5                                      | 39                                                                                                               | 21  | 46  | 22   | 49   | 10  | 40   | 25  | 75   | 45  | 80   | 48  | 87                       | 64  | 100  | 66   | 88   | 46  | 64   | 22  | 72   | 15  | 21   | 10  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 6                                      | 44                                                                                                               | 15  | 36  | 12   | 41   | 11  | 32   | 29  | 65   | 43E | 82   | 51  | 93E                      | 59  | 97   | 64   | 69   | 47  | 67   | 24  | 63   | 28  | 32   | -1  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 7                                      | 40                                                                                                               | 12  | 36  | 5    | 34   | -1  | 34   | 27  | 69   | 42  | 88   | 47  | 90                       | 56  | 88   | 54   | 69   | 46  | 69   | 47  | 69   | 23  | 37   | 14  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 8                                      | 32                                                                                                               | 16  | 37  | 29   | 32   | 6   | 58   | 12  | 63   | 47  | 79   | 54  | 90                       | 55  | 99   | 59   | 87   | 45  | 59   | 22  | 75   | 21  | 42   | 19  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 9                                      | 29                                                                                                               | 7   | 38  | 17   | 41   | 5   | 66   | 27  | 70   | 44  | 65   | 48  | 93                       | 59  | 98   | 60   | 85   | 64  | 66   | 20  | 65   | 24  | 37   | 17  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 10                                     | 21                                                                                                               | 8   | 35  | 23   | 44   | 21  | 73   | 22  | 76   | 39  | 73   | 39  | 84                       | 67  | 92   | 59   | 72   | 47  | 67   | 35  | 70   | 34  | 39   | 18  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 11                                     | 13                                                                                                               | 0   | 50  | 24   | 51   | 21  | 71   | 34  | 68   | 45  | 78   | 57  | 84                       | 58  | 77   | 48   | 63   | 43  | 70   | 41  | 55   | 25  | 42   | 11  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 12                                     | 12                                                                                                               | -26 | 42  | 30   | 65   | 28  | 65   | 37  | 61   | 35  | 81   | 46  | 85                       | 53  | 77   | 34   | 72   | 29  | 72   | 31  | 52   | 30  | 36   | 10  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 13                                     | 30                                                                                                               | -4  | 47  | 15   | 54   | 33  | 58   | 28  | 83   | 38  | 82   | 48  | 94                       | 53  | 74   | 49   | 86   | 40  | 78   | 29  | 51   | 16  | 36   | 7   |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 14                                     | 41                                                                                                               | 3   | 40  | 23   | 47   | 12  | 64   | 32  | 78   | 53  | 73   | 57  | 94                       | 60  | 84   | 50   | 69   | 39  | 82   | 37  | 44   | 33  | 36   | 13  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 15                                     | 40                                                                                                               | 10  | 42  | 9    | 58   | 16  | 82   | 33  | 78   | 47  | 68   | 53  | 97                       | 60  | 84   | 46   | 78   | 38  | 85   | 37  | 33   | 19  | 42   | 12  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 16                                     | 43                                                                                                               | 14  | 44  | 17   | 54   | 22  | 87   | 51  | 85   | 46  | 76   | 53  | 100                      | 60  | 88   | 54   | 82   | 46  | 73   | 45  | 43   | 10  | 16   | -18 |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 17                                     | 46                                                                                                               | 19  | 46  | 13   | 50   | 22  | 65   | 35  | 88   | 57  | 79   | 58  | 103                      | 62  | 94   | 56   | 87   | 47  | 59   | 32  | 40   | 22  | -4   | -20 |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 18                                     | 57                                                                                                               | 22  | 39  | 21   | 63   | 20  | 56   | 37  | 80   | 59  | 74   | 53  | 100                      | 62  | 101  | 58   | 78   | 49  | 56   | 26  | 32   | 4   | 25   | -22 |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 19                                     | 47                                                                                                               | 11  | 23  | 6    | 48   | 21  | 52   | 35  | 84   | 47  | 79   | 48  | 98                       | 66  | 101  | 64   | 69   | 46  | 56   | 22  | 35   | 8   | 21   | -1  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 20                                     | 65                                                                                                               | 11  | 25  | -1   | 35   | 12  | 57   | 35  | 92   | 59  | 77   | 48  | 96                       | 62  | 74   | 48   | 74   | 30  | 78   | 35  | 20   | -2  | 15   | -10 |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 21                                     | 61                                                                                                               | 12  | 36  | 6    | 44   | 11  | 62   | 32  | 91   | 64  | 79   | 52  | 105                      | 68  | 69   | 51   | 77   | 35  | 68   | 29  | 31   | -11 | 42   | 8   |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 22                                     | 51                                                                                                               | 24  | 34  | 11   | 51   | 22  | 65   | 42  | 86   | 62  | 65   | 55  | 109                      | 64  | 69   | 52   | 71   | 39  | 57   | 27  | 58   | 12  | 53   | 12  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 23                                     | 26                                                                                                               | 7   | 40  | -7   | 32   | 8   | 71   | 30  | 73   | 49  | 79   | 48  | 107                      | 71  | 83   | 42   | 68   | 42  | 63   | 21  | 45   | 18  | 57   | 18  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 24                                     | 21                                                                                                               | 7   | 40  | 22   | 16   | 3   | 65   | 50  | 84   | 32  | 89   | 51  | 94                       | 55  | 78   | 44   | 76   | 37  | 71   | 27  | 51   | 12  | 24   | 2   |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 25                                     | 36                                                                                                               | 1   | 36  | 9    | 18   | 0   | 77   | 48  | 80   | 63  | 94   | 55  | 90                       | 62  | 78   | 39   | 96   | 45  | 72   | 27  | 47   | 16  | 19   | -14 |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 26                                     | 33                                                                                                               | 18  | 39  | 9    | 45   | 0   | 60   | 36  | 76   | 46  | 94   | 54  | 96                       | 60  | 99   | 52   | 79   | 30  | 72   | 25  | 20   | -4  | 20   | -7  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 27                                     | 20                                                                                                               | 8   | 36  | 17   | 34   | 21  | 51   | 33  | 66   | 52  | 93   | 58  | 96                       | 58  | 89   | 54   | 69   | 23  | 66   | 34  | 25   | 4   | 33   | -9  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 28                                     | 43                                                                                                               | 3   | 53  | 15   | 41   | 9   | 62   | 36  | 67   | 50  | 92   | 66  | 84                       | 61  | 82   | 45   | 78   | 33  | 57   | 31  | 12   | -8  | 31   | 15  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 29                                     | 53                                                                                                               | 12  | 52  | 16   | 33   | 6   | 63   | 30  | 61   | 46  | 87   | 63  | 91                       | 59  | 80   | 55E  | 70   | 32  | 76   | 20  | 11   | -13 | 27   | 22  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 30                                     | 48                                                                                                               | 21  | --- | ---  | 62   | 12  | 64   | 32  | 64   | 45  | 85   | 59  | 93                       | 59  | 80   | 45   | 84   | 36  | 67   | 30  | 34   | -13 | 32   | -1  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| 31                                     | 46                                                                                                               | 20  | --- | ---  | 71   | 14  | ---  | --- | 65   | 44  | ---  | --- | 103                      | 67  | 92   | 51   | ---  | --- | 58   | 40  | ---  | --- | 34   | -5  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| AV.                                    | 40                                                                                                               | 12  | 41  | 15   | 45   | 14  | 62   | 33  | 74   | 47  | 79   | 51  | 94                       | 61  | 88   | 54   | 78   | 42  | 68   | 32  | 47   | 15  | 29   | 4   |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| MEAN                                   | 26.1                                                                                                             |     |     | 27.8 | 29.7 |     | 47.4 |     | 60.5 |     | 65.1 |     | 77.1                     |     | 70.8 |      | 59.8 |     | 49.8 |     | 31.1 |     | 16.5 |     |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| STA AV.                                | 33                                                                                                               | 6   | 36  | 9    | 46   | 19  | 61   | 32  | 71   | 43  | 81   | 53  | 91                       | 59  | 89   | 55   | 79   | 46  | 66   | 33  | 49   | 20  | 36   | 10  |               |     |     |     |     |     |     |     |  |     |  |  |       |  |
| NOTES:                                 | TEMPERATURE DATA FROM U. S. WEATHER BUREAU METEOROLOGICAL STATION AT COTTONWOOD, S. D. FOR 24 HOURS ENDING 1700. |     |     |      |      |     |      |     |      |     |      |     |                          |     |      |      |      |     |      |     |      |     |      |     |               |     |     |     |     |     |     |     |  |     |  |  |       |  |



| 1965 DAILY AIR TEMPERATURE (degrees F) |                                                                                                                  |     |      |     |      |     |      |     |      |     |      | COTTONWOOD, SOUTH DAKOTA |      |     |      |     |      |     |      |     |      |     |      | WATERSHED M-1 |  |  |  |  |  |  |  |  |  |  |  | 72.05 |  |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|-----|------|-----|------|-----|------|--------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|---------------|--|--|--|--|--|--|--|--|--|--|--|-------|--|
| DAY                                    | JAN                                                                                                              |     | FEB  |     | MAR  |     | APR  |     | MAY  |     | JUNE |                          | JULY |     | AUG  |     | SEPT |     | OCT  |     | NOV  |     | DEC  |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
|                                        | MAX                                                                                                              | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN                      | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN           |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 1                                      | 27                                                                                                               | 11  | 14   | -5  | 33   | 10  | 53   | 26  | 84   | 51  | 79   | 56                       | 82   | 59  | 90   | 52  | 87   | 37  | 78   | 36  | 74   | 27  | 50   | 20            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 2                                      | 31                                                                                                               | -13 | 13   | -11 | 26   | 3   | 68   | 26  | 68   | 46  | 73   | 55                       | 79   | 52  | 95   | 52  | 85   | 40  | 75   | 37  | 78   | 28  | 46   | 18            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 3                                      | 41                                                                                                               | 14  | 22   | -12 | 21   | 9   | 61   | 38  | 66   | 40  | 83   | 51                       | 84   | 53  | 96   | 53  | 89   | 46  | 78   | 34  | 54   | 38  | 52   | 25            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 4                                      | 45                                                                                                               | 15  | 46   | -6  | 32   | 15  | 52   | 31  | 85   | 42  | 81   | 51                       | 90   | 60  | 95   | 63  | 80   | 43  | 68   | 33  | 72   | 27  | 61   | 28            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 5                                      | 26                                                                                                               | 2   | 59   | 24  | 47   | 6   | 49   | 39  | 77   | 56  | 65   | 52                       | 81   | 58  | 90   | 57  | 58   | 34  | 85   | 36  | 66   | 25  | 54   | 27            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 6                                      | 45                                                                                                               | -1  | 59   | 32  | 43   | 29  | 55   | 30  | 70   | 39  | 75   | 52                       | 84   | 53  | 85   | 58  | 62   | 45  | 74   | 40  | 61   | 23  | 57   | 16            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 7                                      | 49                                                                                                               | 24  | 44   | 20  | 52   | 13  | 69   | 27  | 69   | 37  | 67   | 49                       | 93   | 54  | 80   | 58  | 61   | 47  | 70   | 49  | 55   | 32  | 58   | 23            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 8                                      | 24                                                                                                               | 2   | 49   | 21  | 41   | 24  | 63   | 36  | 61   | 40  | 72   | 45                       | 87   | 63  | 88   | 48  | 90   | 50  | 72   | 40  | 38   | 28  | 53   | 18            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 9                                      | 7                                                                                                                | -8  | 41   | 19  | 33   | 24  | 64   | 36  | 45   | 32  | 78   | 46                       | 82   | 56  | 91   | 55  | 77   | 51  | 85   | 35  | 38   | 19  | 44   | 20            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 10                                     | 39                                                                                                               | 0   | 34   | 15  | 46   | 19  | 63   | 40  | 67   | 35  | 71   | 57                       | 80   | 58  | 100  | 62  | 66   | 43  | 70   | 45  | 38   | 15  | 36   | 16            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 11                                     | 31                                                                                                               | 16  | 26   | 8   | 43   | 15  | 42   | 35  | 74   | 37  | 77   | 60                       | 93   | 58  | 104  | 72  | 78   | 45  | 61   | 38  | 45   | 15  | 35   | 29            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 12                                     | 22                                                                                                               | 3   | 33   | 4   | 45   | 24  | 54   | 35  | 78   | 39  | 78   | 57                       | 86   | 67  | 106  | 60  | 70   | 49  | 68   | 30  | 38   | 21  | 36   | 29            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 13                                     | 15                                                                                                               | -3  | 33   | 1   | 41   | 26  | 67   | 33  | 81   | 41  | 82   | 57                       | 83   | 57  | 104  | 67  | 73   | 46  | 69   | 32  | 36   | 14  | 31   | 19            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 14                                     | 42                                                                                                               | 2   | 40   | 22  | 49   | 11  | 62   | 38  | 63   | 53  | 82   | 55                       | 82   | 53  | 100  | 62  | 73   | 52  | 71   | 34  | 59   | 16  | 28   | 16            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 15                                     | 38                                                                                                               | 21  | 34   | 1   | 46   | 10  | 56   | 40  | 64   | 41  | 78   | 63                       | 96   | 52  | 84   | 57  | 66   | 48  | 89   | 44  | 65   | 30  | 28   | 2             |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 16                                     | 48                                                                                                               | 20  | 49   | 17  | 37   | 20  | 59   | 31  | 80   | 39  | 77   | 61                       | 95   | 59  | 94   | 63  | 53   | 32  | 78   | 46  | 53   | 22  | 32E  | -4            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 17                                     | 41                                                                                                               | 31  | 57   | 25  | 28   | -1  | 54   | 32  | 69   | 52  | 79   | 61                       | 93   | 57  | 92   | 60  | 51   | 28  | 77   | 44  | 46   | 8   | 35   | 18            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 18                                     | 47                                                                                                               | 24  | 62   | 31  | 12   | -4  | 61   | 27  | 66   | 39  | 84   | 63                       | 86   | 66  | 89   | 54  | 53   | 33  | 69   | 45  | 53   | 28  | 35   | 4             |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 19                                     | 45                                                                                                               | 31  | 66   | 26  | 19   | -13 | 63   | 36  | 82   | 38  | 83   | 55                       | 88   | 66  | 86   | 50  | 51   | 32  | 62   | 42  | 60   | 21  | 44   | 13            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 20                                     | 53                                                                                                               | 17  | 62   | 20  | 23   | -15 | 82   | 35  | 89   | 56  | 74   | 53                       | 97   | 65  | 83   | 59  | 58   | 33  | 57   | 40  | 58   | 30  | 49   | 25            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 21                                     | 43                                                                                                               | 23  | 24   | 3   | 43   | -20 | 73   | 39  | 62   | 49  | 84   | 51                       | 103  | 67  | 77   | 56  | 65   | 44  | 66   | 23  | 56   | 19  | 50   | 29            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 22                                     | 31                                                                                                               | 17  | 12   | -1  | 31   | 3   | 71   | 39  | 60   | 48  | 79   | 55                       | 105  | 65  | 82   | 56  | 58   | 44  | 74   | 35  | 51   | 23  | 34E  | 20            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 23                                     | 33                                                                                                               | 13  | 8    | -15 | 13   | -9  | 62   | 32  | 80   | 47  | 77   | 55                       | 101  | 56  | 87   | 62  | 49   | 24  | 61   | 41  | 39   | 15  | 31   | 24            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 24                                     | 38                                                                                                               | 7   | 33   | -16 | 13   | -2  | 40   | 32  | 69   | 52  | 83   | 53                       | 83   | 53  | 86   | 53  | 71   | 20  | 78   | 28  | 44   | 21  | 24   | 12            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 25                                     | 36                                                                                                               | 18  | 48   | 1   | 22   | -16 | 56   | 36  | 63   | 46  | 82   | 57                       | 81   | 57  | 89   | 50  | 70   | 37  | 69   | 42  | 28   | 19  | 42   | 12            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 26                                     | 28                                                                                                               | 11  | 65   | 24  | 29   | -3  | 59   | 37  | 63   | 36  | 83   | 60                       | 86   | 65  | 86   | 51  | 37   | 27  | 73   | 30  | 29   | 11  | 24E  | 6             |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 27                                     | 39                                                                                                               | 4   | 65   | 23  | 34   | 11  | 55   | 26  | 64   | 33  | 77   | 55                       | 87   | 54  | 81   | 48  | 45   | 34  | 68   | 30  | 32   | 9   | 35   | 2             |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 28                                     | 17                                                                                                               | -1  | 55   | 32  | 33   | 18  | 78   | 28  | 72   | 31  | 83   | 52                       | 91   | 56  | 89   | 45  | 47   | 39  | 72   | 39  | 35   | 22  | 53   | 29            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 29                                     | 13                                                                                                               | -1  | ---  | --- | 31   | -2  | 84   | 35  | 74   | 47  | 74   | 56                       | 98   | 60  | 90   | 51  | 41   | 27  | 71   | 38  | 35   | 1   | 65   | 39            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 30                                     | 16                                                                                                               | -2  | ---  | --- | 45   | 6   | 85   | 41  | 88   | 49  | 82   | 53                       | 85   | 62  | 69   | 51  | 64   | 31  | 80   | 41  | 53   | 5   | 56   | 31            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 31                                     | 40                                                                                                               | 4   | ---  | --- | 60   | 28  | ---  | --- | 78   | 52  | ---  | ---                      | 86   | 50  | 72   | 43  | ---  | --- | 60   | 27  | ---  | --- | 45   | 19            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| AV.                                    | 34                                                                                                               | 10  | 41   | 11  | 35   | 8   | 62   | 34  | 71   | 43  | 78   | 55                       | 89   | 58  | 89   | 56  | 64   | 39  | 72   | 37  | 50   | 20  | 43   | 19            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| MEAN                                   | 21.8                                                                                                             |     | 26.0 |     | 21.1 |     | 47.9 |     | 57.3 |     | 66.5 |                          | 73.5 |     | 72.4 |     | 51.5 |     | 54.5 |     | 35.0 |     | 30.8 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| STA AV                                 | 33                                                                                                               | 6   | 37   | 9   | 46   | 19  | 61   | 32  | 71   | 43  | 81   | 53                       | 91   | 59  | 89   | 55  | 79   | 46  | 66   | 33  | 49   | 20  | 37   | 10            |  |  |  |  |  |  |  |  |  |  |  |       |  |
| NOTES:                                 | TEMPERATURE DATA FROM U. S. WEATHER BUREAU METEOROLOGICAL STATION AT COTTONWOOD, S. D. FOR 24 HOURS ENDING 1700. |     |      |     |      |     |      |     |      |     |      |                          |      |     |      |     |      |     |      |     |      |     |      |               |  |  |  |  |  |  |  |  |  |  |  |       |  |

| 1963 DAILY PRECIPITATION (inches) |     |  |     |  |     |  |      |  |      |  |      | COTTONWOOD, SOUTH DAKOTA |      |  |     |  |      |  |     |  |     |  |     | WATERSHED M-1 |  |  |  |  |  |  |  |  |  |  |  | 72.05 |  |
|-----------------------------------|-----|--|-----|--|-----|--|------|--|------|--|------|--------------------------|------|--|-----|--|------|--|-----|--|-----|--|-----|---------------|--|--|--|--|--|--|--|--|--|--|--|-------|--|
| DAY                               | JAN |  | FEB |  | MAR |  | APR  |  | MAY  |  | JUNE |                          | JULY |  | AUG |  | SEPT |  | OCT |  | NOV |  | DEC |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 1                                 | .00 |  | .00 |  | .00 |  | .00  |  | .00  |  | .03  |                          | .00  |  | .00 |  | .63  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 2                                 | .00 |  | .00 |  | .07 |  | .00  |  | .09  |  | .36  |                          | .30  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 3                                 | .00 |  | .00 |  | .00 |  | .02  |  | .00  |  | .00  |                          | .00  |  | .00 |  | .11  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 4                                 | .00 |  | .00 |  | .00 |  | .00  |  | .00  |  | .02  |                          | .10  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 5                                 | .00 |  | .00 |  | .00 |  | .00  |  | .00  |  | .09  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 6                                 | .00 |  | .00 |  | .00 |  | .00  |  | .00  |  | .63  |                          | .06  |  | .00 |  | .00  |  | .00 |  | .00 |  | .02 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 7                                 | .00 |  | .00 |  | .00 |  | .00  |  | .00  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .13 |  | .00 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 8                                 | .02 |  | T   |  | .00 |  | .03  |  | .00  |  | .03  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 9                                 | .24 |  | .02 |  | .00 |  | .03  |  | .00  |  | .02  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 10                                | .01 |  | .03 |  | .00 |  | .49  |  | .20  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 11                                | .02 |  | .00 |  | .03 |  | .00  |  | .44  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .03 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 12                                | T   |  | .00 |  | .00 |  | .00  |  | .20  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .04 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 13                                | .00 |  | .00 |  | .00 |  | .00  |  | .00  |  | .02  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 14                                | T   |  | .00 |  | .00 |  | .00  |  | .00  |  | .03  |                          | .12  |  | .00 |  | .00  |  | .00 |  | .00 |  | T   |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 15                                | T   |  | .00 |  | .00 |  | .08  |  | .06  |  | 2.87 |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 16                                | .02 |  | .00 |  | .08 |  | .00  |  | T    |  | .00  |                          | .00  |  | .00 |  | T    |  | .00 |  | .00 |  | .03 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 17                                | .00 |  | .00 |  | .03 |  | .00  |  | .00  |  | .00  |                          | .02  |  | .00 |  | .04  |  | .00 |  | .00 |  | .04 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 18                                | .00 |  | .00 |  | .02 |  | .00  |  | T    |  | .00  |                          | .00  |  | .00 |  | .02  |  | .39 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 19                                | .00 |  | .00 |  | .00 |  | .04  |  | .00  |  | .00  |                          | .00  |  | .00 |  | T    |  | .04 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 20                                | T   |  | .03 |  | .00 |  | .06  |  | .00  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 21                                | T   |  | .00 |  | .00 |  | T    |  | .00  |  | .00  |                          | .00  |  | .00 |  | .17  |  | T   |  | T   |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 22                                | T   |  | .01 |  | .00 |  | .08  |  | .00  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 23                                | .00 |  | T   |  | .00 |  | .00  |  | .00  |  | .00  |                          | .00  |  | .10 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 24                                | .00 |  | T   |  | .07 |  | .00  |  | .00  |  | .05  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 25                                | T   |  | .10 |  | .00 |  | .00  |  | .63  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 26                                | .00 |  | T   |  | .00 |  | .03  |  | .21  |  | .00  |                          | .07  |  | .05 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 27                                | .00 |  | .02 |  | .00 |  | .13  |  | .00  |  | .00  |                          | .51  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 28                                | .00 |  | T   |  | .00 |  | .00  |  | .00  |  | .00  |                          | .00  |  | .00 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 29                                | T   |  | --- |  | .00 |  | .04  |  | .00  |  | .00  |                          | .67  |  | .23 |  | .00  |  | .00 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 30                                | .01 |  | --- |  | .00 |  | .00  |  | 2.95 |  | .00  |                          | .03  |  | .00 |  | .00  |  | .20 |  | .00 |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| 31                                | .00 |  | --- |  | .00 |  | .00  |  | .00  |  | ---  |                          | .00  |  | .00 |  | .04  |  | --- |  | --- |  | .00 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| TOTAL                             | .32 |  | .21 |  | .30 |  | 1.03 |  | 4.78 |  | 4.15 |                          | 1.88 |  | .38 |  | .97  |  | .80 |  | .03 |  | .13 |               |  |  |  |  |  |  |  |  |  |  |  |       |  |
| STA AV                            | .32 |  | .21 |  | .30 |  | 1.03 |  | 4.78 |  | 4.15 |                          | 1.88 |  | .38 |  | .97  |  | .80 |  | .03 |  |     |               |  |  |  |  |  |  |  |  |  |  |  |       |  |

| 1964 DAILY PRECIPITATION (inches) |     |       |     |       |      | COTTONWOOD, SOUTH DAKOTA WATERSHED M-1 |      |      |       |     |       |     | 72.05 |
|-----------------------------------|-----|-------|-----|-------|------|----------------------------------------|------|------|-------|-----|-------|-----|-------|
| DAY                               | JAN | FEB   | MAR | APR   | MAY  | JUNE                                   | JULY | AUG  | SEPT  | OCT | NOV   | DEC |       |
| 1                                 | .00 | .00   | .00 | .00   | .12  | .15                                    | .00  | .00  | .00   | .00 | T     | .03 |       |
| 2                                 | .00 | .00   | .00 | .01   | .72  | .00                                    | .02  | .00  | .00   | .00 | .00   | .10 |       |
| 3                                 | .00 | .00   | .00 | .00   | .00  | .00                                    | .00  | .02  | .00   | .00 | .00   | .02 |       |
| 4                                 | T   | .00   | .01 | .00   | .00  | .00                                    | .00  | .00  | .00   | .00 | .00   | .02 |       |
| 5                                 | T   | .00   | .07 | .00   | .05  | .15                                    | .00  | .00  | .00   | .00 | .00   | .02 |       |
| 6                                 | .00 | T     | .00 | .00   | .00  | .03                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 7                                 | .00 | T     | T   | T     | .00  | .16                                    | .12  | .00  | .00   | .00 | .00   | .00 |       |
| 8                                 | .00 | T     | .01 | .00   | .10  | 1.20                                   | .00  | .29  | .00   | .00 | .00   | .00 |       |
| 9                                 | T   | T     | .00 | .00   | .00  | .00                                    | .63  | .00  | .00   | .00 | .00   | .00 |       |
| 10                                | .00 | T     | .00 | .00   | .27  | .00                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 11                                | .02 | .00   | .00 | .00   | .05  | .00                                    | .01  | .00  | .00   | T   | .00   | .00 |       |
| 12                                | .00 | .00   | .00 | .02   | .00  | .00                                    | .00  | .00  | .00   | .00 | .00   | .00 | T     |
| 13                                | .00 | .00   | .00 | .00   | .00  | .38                                    | .00  | .02  | .00   | .00 | .00   | .00 |       |
| 14                                | .00 | T     | .00 | .00   | .00  | .19                                    | .00  | .00  | .00   | .00 | T     | .00 |       |
| 15                                | .00 | .00   | .00 | .00   | .65  | .35                                    | .00  | .00  | .00   | .00 | .00   | .01 |       |
| 16                                | .00 | T     | .00 | .00   | .00  | .02                                    | .00  | .00  | .00   | .00 | .00   | .08 |       |
| 17                                | .00 | .00   | .00 | .00   | .00  | .68                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 18                                | .00 | .01   | .00 | .00   | .00  | .46                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 19                                | .00 | .01   | .00 | .00   | .00  | .00                                    | .00  | .17  | .15   | .00 | T     | .00 |       |
| 20                                | .00 | T     | .32 | 1.40  | .00  | .00                                    | .00  | .00  | .00   | .00 | T     | .00 |       |
| 21                                | .00 | T     | .00 | .15   | .00  | .88                                    | .00  | .49  | T     | .00 | .00   | .00 |       |
| 22                                | .06 | .01   | .00 | .00   | .00  | .14                                    | .00  | .07  | .00   | .00 | .00   | .00 |       |
| 23                                | .04 | T     | .00 | .00   | .00  | .00                                    | T    | .00  | .00   | .00 | .00   | .00 | T     |
| 24                                | T   | .00   | .00 | .00   | .00  | .00                                    | .00  | .00  | .00   | .00 | .00   | .08 |       |
| 25                                | T   | .00   | .00 | .15   | .00  | .00                                    | .00  | .00  | .00   | .00 | .04   | .18 |       |
| 26                                | T   | .00   | T   | .84   | .00  | .00                                    | .00  | .00  | .00   | .00 | .01   | .00 |       |
| 27                                | .00 | .01   | T   | .12N  | .00  | .00                                    | .00  | .16  | .00   | .00 | .01   | .00 |       |
| 28                                | .00 | .00   | T   | .00   | .01  | .00                                    | .00  | .00  | .00   | .00 | .01   | .00 |       |
| 29                                | .00 | .00   | .00 | .00   | .20  | .06                                    | .20  | .00  | .00   | .00 | .00   | .00 | T     |
| 30                                | .00 | ----- | .00 | .00   | .00  | .25                                    | .00  | .00  | .00   | .00 | .00   | .00 | T     |
| 31                                | .00 | ----- | .00 | ----- | .30  | -----                                  | .00  | .00  | ----- | T   | ----- | .00 |       |
| TOTAL                             | .12 | .04   | .41 | 2.69  | 2.47 | 5.10                                   | .98  | 1.22 | .15   | T   | .07   | .54 |       |
| STA AV                            | .22 | .12   | .36 | 1.86  | 3.62 | 4.62                                   | 1.43 | .80  | .56   | .40 | .05   | .34 |       |

NOTES: PRECIPITATION FROM JAN. 1 THROUGH APR. 7 AND NOV. 18 THROUGH DEC. 31 IS SNOW; ALL THE REST IS RAIN EXCEPT AS INDICATED. PRECIPITATION IS ARITHMETIC MEAN OF GAGES EM-1, EM-2, EM-3 AND EM-4.

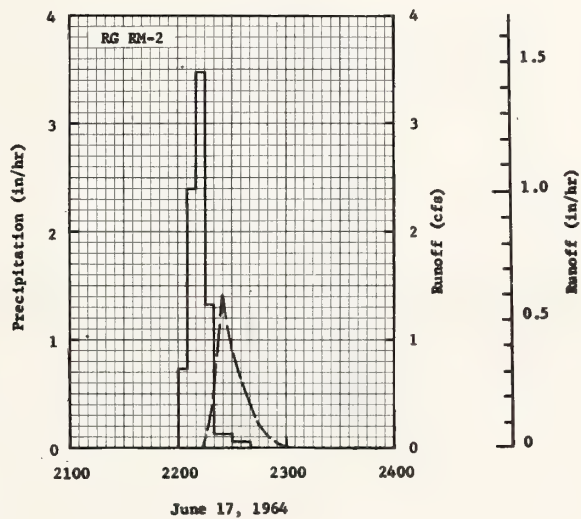
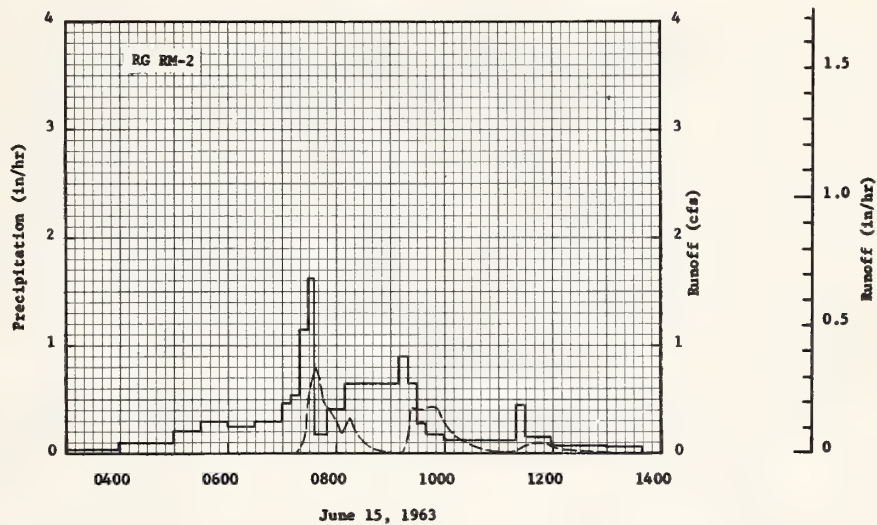
| 1965 DAILY PRECIPITATION (inches) |     |       |     |       |      | COTTONWOOD, SOUTH DAKOTA WATERSHED M-1 |      |      |       |     |       |     | 72.05 |
|-----------------------------------|-----|-------|-----|-------|------|----------------------------------------|------|------|-------|-----|-------|-----|-------|
| DAY                               | JAN | FEB   | MAR | APR   | MAY  | JUNE                                   | JULY | AUG  | SEPT  | OCT | NOV   | DEC |       |
| 1                                 | .00 | .00   | .00 | .00   | T    | .49                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 2                                 | .00 | .00   | .01 | .06   | .00  | .12                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 3                                 | .00 | .00   | .03 | .00   | .00  | .00                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 4                                 | .00 | .00   | T   | .01   | T    | .42                                    | .00  | .00  | .04   | .00 | .00   | .00 |       |
| 5                                 | .00 | .00   | .00 | .45S  | T    | .05                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 6                                 | .00 | .00   | .00 | .00   | .00  | .00                                    | .12  | .02  | .00   | .00 | .00   | .00 |       |
| 7                                 | .00 | T     | .00 | .00   | .02  | .00                                    | .00  | .23  | .02   | .00 | .00   | .00 |       |
| 8                                 | .00 | .00   | .00 | .00   | .81  | .00                                    | .03  | .00  | .00   | .00 | .00   | .00 |       |
| 9                                 | .00 | .00   | .02 | .03   | .37M | .00                                    | .42  | .00  | .00   | .00 | .00   | .00 |       |
| 10                                | .00 | T     | .00 | .08N  | .00  | .03                                    | .04  | .00  | .00   | .00 | .00   | .23 |       |
| 11                                | .00 | .00   | T   | .21N  | .00  | .60                                    | .00  | .00  | .00   | .00 | .06   | .25 |       |
| 12                                | T   | T     | .00 | .00   | .00  | .02                                    | .00  | .00  | .08   | .00 | .00   | .00 | T     |
| 13                                | T   | .00   | T   | .00   | .09  | .00                                    | .00  | .14  | .00   | .00 | .00   | .00 |       |
| 14                                | .19 | T     | .00 | .00   | 1.75 | .00                                    | .00  | .00  | .01   | .00 | .00   | .00 | T     |
| 15                                | .00 | .00   | .00 | .00   | .26  | .00                                    | .00  | .00  | .02   | .00 | .00   | .00 |       |
| 16                                | .00 | .00   | .00 | .06S  | .00  | .05                                    | .00  | .00  | .25N  | .00 | .00   | .00 |       |
| 17                                | .00 | .00   | .06 | .08S  | .00  | .04                                    | .00  | .00  | T     | .00 | .04   | .00 |       |
| 18                                | .00 | .00   | .00 | .00   | .00  | .08                                    | .08  | .00  | .00   | .44 | .00   | .00 |       |
| 19                                | .00 | .00   | .00 | .00   | .00  | .00                                    | .00  | .00  | .00   | .18 | .00   | .00 |       |
| 20                                | .00 | .02   | .00 | T     | .09  | .00                                    | .00  | .12  | T     | .00 | .00   | .00 |       |
| 21                                | .00 | .02   | .00 | .00   | .00  | .00                                    | .00  | .47  | .00   | .00 | .00   | .00 | T     |
| 22                                | T   | T     | .03 | .00   | .30  | .00                                    | .00  | .00  | T     | .00 | .00   | .00 |       |
| 23                                | .04 | .00   | T   | .53N  | .57  | .14                                    | .07  | .00  | .00   | .00 | .00   | .00 |       |
| 24                                | .00 | T     | .02 | .07S  | .74  | .20                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 25                                | T   | .00   | .00 | .00   | .27  | .29                                    | .00  | .08  | .00   | .00 | .19   | .00 |       |
| 26                                | .00 | .00   | .00 | .00   | .08  | .14                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 27                                | .02 | .00   | .09 | .00   | T    | .00                                    | .00  | .00  | .04   | .00 | .00   | .00 |       |
| 28                                | .00 | .00   | .14 | .00   | .14  | .27                                    | .00  | .00  | .49   | .00 | .00   | .00 |       |
| 29                                | .04 | ----- | .00 | .00   | .00  | .07                                    | .10  | .00  | .29   | .00 | .00   | .00 |       |
| 30                                | .02 | ----- | .00 | .00   | .00  | .00                                    | .00  | .00  | .00   | .00 | .00   | .00 |       |
| 31                                | T   | ----- | .00 | ----- | .07  | -----                                  | .00  | .00  | ----- | .00 | ----- | .00 |       |
| TOTAL                             | .31 | .04   | .40 | 1.58  | 5.56 | 3.01                                   | .86  | 1.06 | 1.24  | .62 | .29   | .48 |       |
| STA AV                            | .25 | .10   | .37 | 1.77  | 4.27 | 4.09                                   | 1.24 | .89  | .79   | .47 | .13   | .38 |       |

NOTES: PRECIPITATION FROM JAN. 1 THROUGH MAR. 31 AND NOV. 1 THROUGH DEC. 31 IS SNOW; ALL THE REST IS RAIN EXCEPT AS INDICATED. PRECIPITATION IS ARITHMETIC MEAN OF GAGES EM-1, EM-2, EM-3 AND EM-4.

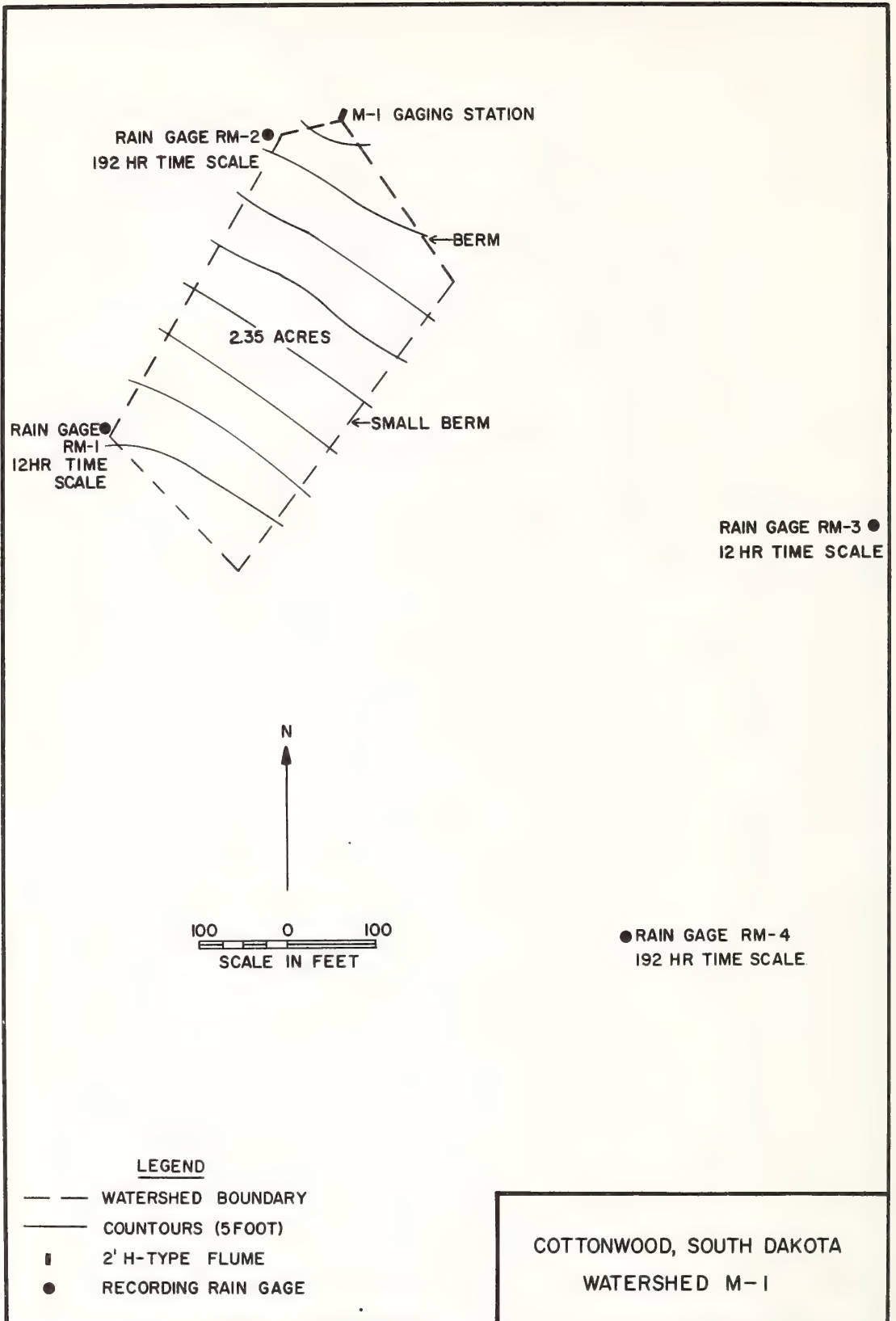


| 1963-64 SELECTED RUNOFF EVENT                                                                                                                 |                      |                    | COTTONWOOD, SOUTH DAKOTA |                |                      |                  | WATERSHED M-1  |                |               |                  | 72.05 |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------------|----------------|----------------------|------------------|----------------|----------------|---------------|------------------|-------|
| ANTECEDENT CONDITIONS                                                                                                                         |                      |                    | RAINFALL                 |                |                      |                  | RUNOFF         |                |               |                  |       |
| DATE<br>MO-DAY                                                                                                                                | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY           | TIME<br>OF DAY | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |       |
| 4 RG 1/                                                                                                                                       |                      |                    | Event of June 15, 1963   |                |                      |                  |                |                |               |                  |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                |                |               |                  |       |
| 5-25                                                                                                                                          | .63                  | .00                | 6-14                     | RG             | RM-2                 | .00              | 6-15           | 0713           | .00           | .00              |       |
| 5-26                                                                                                                                          | .21                  | .00                |                          | 2348           | .06                  | .01              |                | 0716           | .01           | .00              |       |
| 5-30                                                                                                                                          | 2.95                 | 1.12               |                          |                |                      |                  |                | 0726           | .21           | .01              |       |
| 6- 1                                                                                                                                          | .03                  | .00                | 6-15                     | 0058           | .04                  | .05              |                | 0731           | .64           | .02              |       |
| 6- 2                                                                                                                                          | .36                  | .00                |                          | 0158           | .04                  | .09              |                | 0736           | .79           | .05              |       |
|                                                                                                                                               |                      |                    |                          | 0258           | .01                  | .10              |                |                |               |                  |       |
| 6- 4                                                                                                                                          | .02                  | .00                |                          | 0358           | .04                  | .14              |                | 0746           | .46           | .09              |       |
| 6- 5                                                                                                                                          | .09                  | .00                |                          | 0458           | .10                  | .24              |                | 0749           | .42           | .10              |       |
| 6- 6                                                                                                                                          | .63                  | .00                |                          |                |                      |                  |                | 0756           | .37           | .12              |       |
| 6- 8                                                                                                                                          | .03                  | .00                |                          | 0528           | .22                  | .35              |                | 0806           | .19           | .14              |       |
| 6- 9                                                                                                                                          | .02                  | .00                |                          | 0558           | .30                  | .50              |                | 0810           | .26           | .15              |       |
|                                                                                                                                               |                      |                    |                          | 0628           | .26                  | .63              |                |                |               |                  |       |
| 6-13                                                                                                                                          | .02                  | .00                |                          | 0658           | .30                  | .78              |                | 0814           | .32           | .16              |       |
| 6-14                                                                                                                                          | .02                  | .00                |                          | 0708           | .48                  | .86              |                | 0816           | .27           | .16              |       |
| Watershed conditions: 100%<br>moderately grazed rangeland;<br>vegetative cover on Aug. 8<br>was 457.0 lbs. per acre<br>(oven-dry weight).     |                      |                    |                          | 0718           | .54                  | .95              |                | 0826           | .13           | .18              |       |
|                                                                                                                                               |                      |                    |                          | 0728           | 1.14                 | 1.14             |                | 0836           | .06           | .18              |       |
|                                                                                                                                               |                      |                    |                          | 0735           | 1.63                 | 1.33             |                | 0846           | .02           | .19              |       |
|                                                                                                                                               |                      |                    |                          | 0748           | .18                  | 1.37             |                | 0850           | .01           | .19              |       |
|                                                                                                                                               |                      |                    |                          | 0758           | .42                  | 1.44             |                | 0906           | .00           | .19              |       |
|                                                                                                                                               |                      |                    |                          | 0808           | .42                  | 1.51             |                | 0911           | .00           | .19              |       |
|                                                                                                                                               |                      |                    |                          | 0818           | .66                  | 1.62             |                | 0916           | .09           | .19              |       |
|                                                                                                                                               |                      |                    |                          | 0908           | .66                  | 1.73             |                | 0920           | .26           | .19              |       |
|                                                                                                                                               |                      |                    |                          | 0918           | .90                  | 1.88             |                | 0924           | .42           | .20              |       |
|                                                                                                                                               |                      |                    |                          | 0928           | .66                  | 1.99             |                | 0930           | .42           | .22              |       |
|                                                                                                                                               |                      |                    |                          | 0938           | .30                  | 2.04             |                | 0933           | .40           | .23              |       |
|                                                                                                                                               |                      |                    |                          | 0958           | .18                  | 2.10             |                | 0940           | .42           | .25              |       |
|                                                                                                                                               |                      |                    |                          | 1058           | .11                  | 2.21             |                | 0946           | .46           | .27              |       |
|                                                                                                                                               |                      |                    |                          | 1119           | .11                  | 2.25             |                |                |               |                  |       |
|                                                                                                                                               |                      |                    |                          | 1128           | .47                  | 2.32             |                | 0951           | .42           | .29              |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1006           | .20           | .32              |       |
|                                                                                                                                               |                      |                    |                          | 1158           | .16                  | 2.40             |                | 1026           | .08           | .34              |       |
|                                                                                                                                               |                      |                    |                          | 1258           | .07                  | 2.47             |                | 1046           | .03           | .35              |       |
|                                                                                                                                               |                      |                    |                          | 1338           | .06                  | 2.51             |                | 1104           | .01           | .35              |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1119           | .01           | .35              |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1126           | .05           | .36              |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1141           | .10           | .36              |       |
|                                                                                                                                               |                      |                    |                          | RG             | RM-1                 | 2.69             |                | 1146           | .10           | .37              |       |
|                                                                                                                                               |                      |                    |                          | RG             | RM-3                 | 2.54             |                | 1238           | .03           | .39              |       |
|                                                                                                                                               |                      |                    |                          | RG             | RM-4                 | 2.67             |                | 1256           | .01           | .39              |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1303           | .00           | .39              |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                | 1340           | .00           | .40              |       |
| 4 RG 1/                                                                                                                                       |                      |                    | Event of June 17, 1964   |                |                      |                  |                |                |               |                  |       |
|                                                                                                                                               |                      |                    |                          |                |                      |                  |                |                |               |                  |       |
| 5-28                                                                                                                                          | .01                  | .00                | 6-17                     | RG             | RM-2                 | .00              | 6-17           | 2213           | .00           | .00              |       |
| 5-29                                                                                                                                          | .20                  | .00                |                          | 2200           | .72                  | .06              |                | 2215           | .10           | .00              |       |
| 5-31                                                                                                                                          | .30                  | .00                |                          | 2210           | 2.40                 | .26              |                | 2221           | .79           | .02              |       |
| 6- 1                                                                                                                                          | .15                  | .00                |                          | 2215           | 3.48                 | .55              |                | 2224           | 1.41          | .04              |       |
| 6- 5                                                                                                                                          | .15                  | .00                |                          | 2220           | 1.32                 | .66              |                | 2229           | .91           | .08              |       |
| 6- 6                                                                                                                                          | .03                  | .00                |                          | 2230           | .12                  | .68              |                | 2236           | .59           | .12              |       |
| 6- 7                                                                                                                                          | .16                  | .00                |                          | 2240           | .06                  | .69              |                | 2244           | .23           | .14              |       |
| 6- 8                                                                                                                                          | 1.20                 | .00                |                          |                |                      |                  |                | 2253           | .04           | .15              |       |
| 6-13                                                                                                                                          | .38                  | .00                |                          |                |                      |                  |                | 2305           | .00           | .15              |       |
| 6-14                                                                                                                                          | .19                  | .00                |                          |                |                      |                  |                |                |               |                  |       |
| 6-15                                                                                                                                          | .35                  | .00                |                          |                |                      |                  |                |                |               |                  |       |
| 6-16                                                                                                                                          | .02                  | .00                |                          |                |                      |                  |                |                |               |                  |       |
| Watershed conditions: 100%<br>moderately grazed rangeland;<br>vegetative cover in late July<br>was 500.2 lbs. per acre (oven-<br>dry weight). |                      |                    |                          | RG             | RM-1                 | .70              |                |                |               |                  |       |
|                                                                                                                                               |                      |                    |                          | RG             | RM-3                 | .69              |                |                |               |                  |       |
|                                                                                                                                               |                      |                    |                          | RG             | RM-4                 | .64              |                |                |               |                  |       |

NOTES: TO CONVERT CFS TO IN/HR, MULTIPLY BY 0.4220. 1/ ARITHMETIC MEAN OF RAIN GAGES RM-1, RM-2, RM-3, AND RM-4.



COTTONWOOD, SOUTH DAKOTA WATERSHED M-1



## AHOSKIE, NORTH CAROLINA WATERSHED W-A1

**LOCATION:** Hertford, Bertie, and Northampton Counties, North Carolina; approximately 3/4 mile southwest of Ahoskie; Chowan River Basin.

**AREA:** 36,480 acres. (57.0 sq. miles)

|                |                 |     |     |      |
|----------------|-----------------|-----|-----|------|
| <b>SLOPES:</b> | Slope-Percent   | 0-2 | 2-6 | 6-10 |
|                | Percent of area | 95  | 4   | 1    |

**SOILS:** Derived from moderately fine textured sediments.

| Type                                      | Percent of area | Topsoil          |                                            |               | Subsoil                                 |                    | Substratum         |                    | Internal drainage    |
|-------------------------------------------|-----------------|------------------|--------------------------------------------|---------------|-----------------------------------------|--------------------|--------------------|--------------------|----------------------|
|                                           |                 | Avg. depth (in.) | Structure                                  | Perme-ability | Structure                               | Perme-ability      | Avg. depth to(in.) | Perme-ability      |                      |
| Coxville<br>fine sandy loam,<br>silt loam | 41              | 8                | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>subangular blocky | Slow               | 38                 | Slow               | Slow                 |
| Lenoir<br>fine sandy loam,<br>silt loam   | 22              | 7                | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>angular blocky    | Slow               | 36                 | Slow               | Slow to<br>very slow |
| Craven<br>fine sandy loam                 | 15              | 12               | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>subangular blocky | Slow               | 42                 | Slow               | Medium               |
| Chastain<br>clay loam                     | 8               | 9                | Moderate<br>medium<br>subangular<br>blocky | Moderate      | Moderate<br>medium<br>angular blocky    | Slow               | 60                 | Slow               | Slow to<br>very slow |
| Marlboro<br>fine sandy loam               | 4               | 9                | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>subangular blocky | Moderately<br>slow | 32                 | Moderately<br>slow | Medium               |
| Duplin<br>fine sandy loam                 | 3               | 8                | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>subangular blocky | Moderately<br>slow | 34                 | Moderately<br>slow | Medium               |
| Dunbar<br>fine sandy loam                 | 2               | 15               | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>subangular blocky | Moderately<br>slow | 30                 | Moderately<br>slow | Slow                 |
| Caroline<br>fine sandy loam               | 2               | 12               | Weak<br>fine<br>granular                   | Moderate      | Moderate<br>medium<br>angular blocky    | Slow               | 31                 | Slow               | Medium               |
| Norfolk<br>loamy fine sand,<br>sandy loam | 2               | 12               | Weak<br>fine<br>granular                   | Moderate      | Weak<br>medium<br>subangular blocky     | Moderate           | 36                 | Moderate           | Medium               |
| Faceville<br>fine sandy loam              | 1               | 10               | Weak<br>fine<br>granular                   | Rapid         | Moderate<br>medium<br>subangular blocky | Moderate           | 28                 | Moderately<br>slow | Medium               |

|                 |                 |    |   |
|-----------------|-----------------|----|---|
| <b>EROSION:</b> | Erosion class   | 1  | 2 |
|                 | Percent of area | 96 | 4 |

|                         |                 |   |    |     |    |   |
|-------------------------|-----------------|---|----|-----|----|---|
| <b>LAND CAPABILITY:</b> | Class           | I | II | III | IV | V |
|                         | Percent of area | 5 | 23 | 63  | 8  | 1 |

**GEOLOGY:** The watershed is located in the Southern Coastal Plain Land Resource Area and is underlain by sedimentary formations that thicken to the east and dip approximately 15 ft. to 30 ft. per mile in a southeasterly direction. Clay, sand, and gravel surficial deposits of Quaternary age vary in thickness from 10 ft. to 40 ft. and overlay late Miocene Yorktown formation sediments throughout the watershed. The Yorktown formation varies from 30 ft. to 75 ft. in thickness and is composed of locally lenticular blue-gray clays, sands, marl, and shell beds. Underlying the Yorktown is the Beaufort formation of Paleocene age. This formation is composed of beds of glauconitic sand and calcareous clay from 40 ft. to 60 ft. thick, dipping to the southeast. The Beaufort lies directly on Upper Cretaceous sediments, which also dip to the southeast. The surface phreatic aquifer, the semi-confined aquifers, and the below-lying artesian aquifers are sources of groundwater in the area. Groundwater moves laterally in the surficial aquifer with minor amounts being lost to the under-lying artesian systems. The phreatic water discharges as effluent seepage into stream channels or moves laterally from the area as subsurface alluvial flow. The major recharge areas for the artesian aquifers (Yorktown, Beaufort, and Upper Cretaceous) lie west of the watershed. Source of Data: North Carolina Dept. of Conservation and Development, Div. of Mineral Resources, Bulletins 51 and 73; also information from ARS, SWC drilling in the watershed area.

**SURFACE DRAINAGE:** Good; length of principal waterway approximately 17.6 miles. All major channels excavated prior to July 1964 and maintained continually for flood prevention and drainage.

**CHARACTER OF FLOW:** Perennial flow, continuous.

**INSTRUMENTATION:** Runoff: Water-stage recorder on channel section rated periodically by U.S. Geological Survey. Precipitation: 7 weighing-type recording rain gages with 24-hour time scales and 3 tipping-bucket gages.

**WATERSHED CONDITIONS:** Woodland, 65%; row crops, 30%; pasture, 2%; roads, urban, and homesites, 3%.

**GENERALLY REPRESENTS:** Mixed row crops and woodland on coastal plain soils with extensive system of excavated channels for drainage and flood prevention. Applicable to areas of the Southern Coastal Plain (P-133) in the Carolinas and Virginia where channel improvement works have been installed.



| MONTHLY PRECIPITATION AND RUNOFF <sup>1/</sup> <sup>2/</sup> (inches) |       |      |      |      |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A1<br>AREA—36,480 ACRES (57.0 SQ. MILES) |      |      |      |      |      |      |      | 75.01  |
|-----------------------------------------------------------------------|-------|------|------|------|------|------------------------------------------------------------------------------|------|------|------|------|------|------|------|--------|
| YEAR                                                                  | MONTH | JAN  | FEB  | MAR  | APR  | MAY                                                                          | JUNE | JULY | AUG  | SEPT | OCT  | NOV  | DEC  | ANNUAL |
| 1964                                                                  | P     |      |      |      |      |                                                                              |      | 7.30 | 8.92 | 6.57 | 6.60 | 1.59 | 4.15 |        |
|                                                                       | Q     |      |      |      |      |                                                                              |      | .54  | .94  | 2.59 | 4.96 | .42  | 3.01 |        |
| 1965                                                                  | P     | 1.69 | 2.85 | 3.25 | 2.07 | 1.84                                                                         | 5.37 | 7.53 | 4.13 | 3.03 | .94  | .65  | .46  | 33.81  |
|                                                                       | Q     | 1.55 | 2.89 | 2.32 | .76  | .30                                                                          | .94  | 2.08 | .82  | .22  | .15  | .11  | .12  | 12.26  |
| MEAN P                                                                | 4/    | 3.50 | 3.67 | 3.69 | 3.31 | 3.47                                                                         | 4.88 | 5.75 | 4.56 | 4.02 | 2.87 | 2.79 | 3.33 | 45.84  |
| 56                                                                    | YR    |      |      |      |      |                                                                              |      |      |      |      |      |      |      |        |

## ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS

| YEAR | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
|      |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|      | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965 | 7-16              | .04  | 7-16                                      | .04    | 7-16    | .09    | 7-16    | .26    | 7-16     | .51    | 7-15  | .84    | 7-15   | 1.03   | 7-11   | 1.70   |

## MAXIMUMS FOR PERIOD OF RECORD

|          |      |     |      |     |      |     |      |     |      |     |      |      |      |      |      |      |
|----------|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|
| 19 50 TO | 10-5 | .07 | 10-5 | .07 | 10-5 | .14 | 10-5 | .42 | 10-5 | .83 | 10-5 | 1.65 | 10-5 | 3.02 | 10-3 | 4.15 |
| 1965     | 1964 |     | 1964 |     | 1964 |     | 1964 |     | 1964 |     | 1964 |      | 1964 |      | 1964 |      |

## NOTES:

Watershed conditions: Woodland, 65%; row crops, 30%; pasture, 2%; roads, urban, and homesites, 3%.  
 1/ Precipitation Thiessen weighted using 10 gages. 2/ Runoff data furnished by U.S. Geological Survey. 3/ STA AVG omitted since records after complete channel excavation only began July 1, 1964. 4/ Mean P based on 56-yr. (1910-1965) U.S. Weather Bureau record period at Scotland Neck, N. C. Missing records for Oct. 1920, May 1945, Jan and May 1949, Jan., Feb., and Mar. 1950, and Nov. 1951 estimated from nearby station.

| 1964   | DAILY AIR TEMPERATURE (degrees F) |     |     |     |     |     |     |     |     |     |      | AHOSKIE, NORTH CAROLINA |      |     |      |     |      |     |      |     |      |     |      | WATERSHED W-A1 |  |  |  | 75.01 |  |
|--------|-----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|----------------|--|--|--|-------|--|
| DAY    | JAN                               |     | FEB |     | MAR |     | APR |     | MAY |     | JUNE |                         | JULY |     | AUG  |     | SEPT |     | OCT  |     | NOV  |     | DEC  |                |  |  |  |       |  |
|        | MAX                               | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX  | MIN                     | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN            |  |  |  |       |  |
| 1      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 89   | 63  | 84   | 60  | 79   | 70  | 68   | 61  | 68   | 32  | 37   | 22             |  |  |  |       |  |
| 2      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 90   | 64  | 86   | 63  | 82   | 59  | 78   | 62  | 72   | 40  | 49   | 20             |  |  |  |       |  |
| 3      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 91   | 66  | 92   | 72  | 82   | 57  | 75   | 63  | 69   | 46  | 68   | 30             |  |  |  |       |  |
| 4      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 88   | 72  | 89   | 63  | 85   | 56  | 75   | 59  | 70   | 35  | 71   | 59             |  |  |  |       |  |
| 5      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 83   | 58  | 81   | 58  | 89   | 64  | 69   | 46  | 75   | 34  | 70   | 61             |  |  |  |       |  |
| 6      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 88   | 52  | 85   | 56  | 88   | 62  | 63   | 40  | 65   | 37  | 64   | 42             |  |  |  |       |  |
| 7      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 92   | 55  | 86   | 60  | 83   | 53  | 63   | 43  | 67   | 31  | 44   | 32             |  |  |  |       |  |
| 8      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 87   | 66  | 90   | 67  | 83   | 55  | 69   | 39  | 69   | 36  | 49   | 24             |  |  |  |       |  |
| 9      |                                   |     |     |     |     |     |     |     |     |     |      |                         | 87   | 69  | 87   | 67  | 86   | 63  | 68   | 47  | 67   | 42  | 51   | 29             |  |  |  |       |  |
| 10     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 84   | 65  | 79   | 58  | 90   | 66  | 66   | 39  | 70   | 31  | 53   | 24             |  |  |  |       |  |
| 11     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 86   | 65  | 83   | 66  | 88   | 70  | 58   | 34  | 78   | 39  | 70   | 30             |  |  |  |       |  |
| 12     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 87   | 61  | 87   | 73  | 83   | 65  | 68   | 28  | 75   | 50  | 72   | 59             |  |  |  |       |  |
| 13     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 86   | 73  | 86   | 60  | 67   | 59  | 74   | 35  | 78   | --  | 66   | 55             |  |  |  |       |  |
| 14     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 89   | 71  | 77   | 52  | 72   | 52  | 71   | 39  | 74   | 36  | 57   | 43             |  |  |  |       |  |
| 15     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 92   | 69  | 78   | 49  | 80   | 45  | 72   | 51  | 71   | 30  | 45   | 27             |  |  |  |       |  |
| 16     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 90   | 66  | 72   | 49  | 81   | 46  | 76   | --  | 80   | 44  | 51   | 18             |  |  |  |       |  |
| 17     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 92   | 64  | 78   | 61  | 82   | 50  | 70   | 56  | 74   | 57  | 58   | 33             |  |  |  |       |  |
| 18     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 83   | 67  | 86   | 60  | 82   | 53  | 80   | 52  | 75   | 47  | 61   | 34             |  |  |  |       |  |
| 19     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 86   | 69  | 83   | 61  | 83   | 62  | 75   | 50  | 80   | 60  | 43   | 19             |  |  |  |       |  |
| 20     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 89   | 69  | 84   | 60  | 78   | 62  | 57   | 44  | 74   | 53  | 42   | 28             |  |  |  |       |  |
| 21     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 85   | 68  | 90   | 61  | 75   | 59  | 62   | 31  | 57   | 43  | 42   | 33             |  |  |  |       |  |
| 22     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 80   | 68  | 90   | 65  | 73   | 59  | 72   | 40  | 51   | 26  | 47   | 32             |  |  |  |       |  |
| 23     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 89   | 66  | 90   | 74  | 84   | 59  | 64   | 45  | 55   | 19  | 46   | 28             |  |  |  |       |  |
| 24     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 83   | 69  | 92   | 69  | 84   | 66  | 60   | 28  | 64   | 27  | 72   | 43             |  |  |  |       |  |
| 25     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 80   | 67  | 91   | 66  | 79   | 47  | 68   | 30  | 69   | 52  | 74   | 54             |  |  |  |       |  |
| 26     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 82   | 64  | 87   | 68  | 77   | 41  | 73   | 33  | 67   | 46  | 75   | 55             |  |  |  |       |  |
| 27     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 89   | 63  | 87   | 65  | 82   | 48  | 72   | 34  | 66   | 33  | 77   | 62             |  |  |  |       |  |
| 28     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 83   | 72  | 86   | 69  | 83   | 61  | 75   | 37  | 72   | 39  | 65   | 42             |  |  |  |       |  |
| 29     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 88   | 73  | 85   | 69  | 86   | 69  | 74   | 47  | 68   | 48  | 53   | 32             |  |  |  |       |  |
| 30     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 88   | 69  | 89   | 71  | 80   | 64  | 72   | 40  | 50   | 31  | 63   | 33             |  |  |  |       |  |
| 31     |                                   |     |     |     |     |     |     |     |     |     |      |                         | 86   | 67  | 80   | 71  | --   | --  | 67   | 34  | --   | --  | 62   | 49             |  |  |  |       |  |
| AV.    |                                   |     |     |     |     |     |     |     |     |     |      |                         | 87   | 66  | 85   | 63  | 82   | 58  | 69   | 43  | 69   | 39  | 58   | 37             |  |  |  |       |  |
| MEAN   |                                   |     |     |     |     |     |     |     |     |     |      |                         | 76.5 |     | 74.2 |     | 69.8 |     | 56.1 |     | 54.1 |     | 47.6 |                |  |  |  |       |  |
| STA AV |                                   |     |     |     |     |     |     |     |     |     |      |                         | 89   | 66  | 88   | 65  | 83   | 59  | 73   | 48  | 65   | 39  | 54   | 30             |  |  |  |       |  |

NOTES: TEMPERATURE DATA FROM U.S. WEATHER BUREAU STATION AT LEWISTON, N.C. RECORDS BEGAN MARCH 1954.

| 1965 DAILY AIR TEMPERATURE (degrees F) |      |     |      |     |      |     |      |     |      |     | AHOSKIE, NORTH CAROLINA WATERSHED W-A1 75.01 |     |      |     |      |     |      |     |      |     |      |     |      |     |
|----------------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|----------------------------------------------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| DAY                                    | JAN  |     | FEB  |     | MAR  |     | APR  |     | MAY  |     | JUNE                                         |     | JULY |     | AUG  |     | SEPT |     | OCT  |     | NOV  |     | DEC  |     |
|                                        | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX                                          | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN | MAX  | MIN |
| 1                                      | 58   | 27  | 44   | 0   | 65   | 38  | 54   | 26  | 86   | 46  | 87                                           | 54  | 84   | 66  | 86   | 64  | 86   | 63  | 79   | 63  | 66   | 44  | 45   | 20  |
| 2                                      | 65   | 39  | 44   | 34  | 55   | 38  | 63   | 43  | 88   | 58  | 89                                           | 65  | 82   | 48  | 85   | 67  | 82   | 62  | 75   | 58  | 64   | 25  | 57   | 19  |
| 3                                      | 65   | 41  | 36   | 20  | 62   | 39  | 56   | 34  | 90   | 53  | 86                                           | 63  | 87   | 60  | 88   | 66  | 73   | 61  | 78   | 43  | 72   | 32  | 62   | 26  |
| 4                                      | 51   | 26  | 40   | 20  | 59   | 41  | 66   | 30  | 91   | 53  | 75                                           | 55  | 91   | 71  | 89   | 65  | 82   | 61  | 68   | 39  | 76   | 45  | 59   | 46  |
| 5                                      | 59   | 22  | 45   | 16  | 58   | 38  | 70   | 33  | 89   | 64  | 82                                           | 39  | 89   | 68  | 88   | 65  | 81   | 59  | 63   | 33  | 68   | 45  | 54   | 26  |
| 6                                      | 55   | 32  | 65   | 28  | 47   | 27  | 69   | 51  | 86   | 54  | 86                                           | 48  | 88   | 66  | 89   | 66  | 79   | 63  | 70   | 31  | 75   | 40  | 61   | 34  |
| 7                                      | 54   | 22  | 63   | 52  | 51   | 29  | 71   | 55  | 78   | 53  | 88                                           | 60  | 89   | 62  | 88   | 66  | 80   | 48  | 80   | 53  | 76   | 38  | 51   | 29  |
| 8                                      | 69   | 44  | 72   | 58  | 53   | 28  | 73   | 49  | 78   | 58  | 87                                           | 68  | 86   | 67  | 89   | 68  | 84   | 47  | 76   | 58  | 76   | 41  | 56   | 17  |
| 9                                      | 73   | 58  | 71   | 46  | 57   | 37  | 81   | 63  | 81   | 58  | 81                                           | 68  | 88   | 69  | 89   | 70  | 85   | 55  | 76   | 51  | 71   | 52  | 55   | 25  |
| 10                                     | 70   | 41  | 70   | 46  | 55   | 32  | 68   | 42  | 89   | 63  | 87                                           | 70  | 89   | 72  | 89   | 69  | --   | --  | 71   | 42  | 61   | 42  | 63   | 29  |
| 11                                     | 42   | 33  | 69   | 52  | 50   | 27  | 72   | 41  | 88   | 67  | 88                                           | 69  | 86   | 70  | 86   | 63  | 94   | 61  | 71   | 39  | 62   | 48  | 69   | 32  |
| 12                                     | 51   | 27  | 75   | 58  | 47   | 28  | 87   | 63  | 84   | 64  | 75                                           | 66  | 83   | 68  | 88   | 62  | 87   | 69  | 78   | 50  | 62   | 50  | 71   | 42  |
| 13                                     | 55   | 26  | 67   | 44  | 51   | 24  | 86   | 65  | 82   | 53  | 86                                           | 66  | 85   | 64  | 91   | 69  | 86   | 72  | 74   | 45  | 65   | 48  | 63   | 55  |
| 14                                     | 52   | 30  | 45   | 31  | 60   | 30  | 67   | 34  | 78   | 46  | 86                                           | 62  | 89   | 64  | 92   | 71  | 86   | 71  | 81   | 46  | 71   | 40  | 61   | 48  |
| 15                                     | 41   | 24  | 34   | 29  | 57   | 38  | 66   | 44  | 78   | 41  | 73                                           | 60  | 91   | 70  | 90   | 69  | 86   | 70  | 80   | 57  | 64   | 32  | 58   | 41  |
| 16                                     | 33   | 27  | 49   | 23  | 67   | 28  | 72   | 59  | 88   | 55  | 67                                           | 57  | 87   | 67  | 88   | --  | 90   | 68  | 83   | 53  | 76   | 44  | 57   | 42  |
| 17                                     | 27   | 17  | 47   | 40  | 65   | 35  | 70   | 35  | 85   | 65  | 67                                           | 54  | 90   | 67  | 90   | 65  | 89   | 66  | 74   | 54  | 73   | 46  | 61   | 35  |
| 18                                     | 36   | 9   | 62   | 31  | 70   | 40  | 83   | 60  | 87   | 58  | 74                                           | 56  | 91   | 68  | 92   | 68  | 87   | 65  | 69   | 48  | 54   | 29  | 54   | 22  |
| 19                                     | 33   | 7   | 59   | 42  | 69   | 44  | 81   | 51  | 86   | 57  | 79                                           | 49  | 88   | 65  | 94   | 70  | 90   | 66  | 77   | 58  | 57   | 30  | 45   | 32  |
| 20                                     | 49   | 19  | 43   | 20  | 55   | 31  | 56   | 45  | 86   | 59  | 86                                           | 56  | 83   | 64  | 91   | 67  | 91   | 65  | 77   | 57  | 62   | 25  | 44   | 25  |
| 21                                     | 52   | 24  | 57   | 25  | 42   | 24  | 71   | 35  | 82   | 57  | 87                                           | 59  | 80   | 62  | 87   | 63  | 89   | 68  | 78   | 58  | 65   | 30  | 49   | 29  |
| 22                                     | 63   | 25  | 55   | 34  | 54   | 27  | 82   | 44  | 84   | 58  | 89                                           | 65  | 83   | 51  | 92   | 68  | 87   | 64  | 74   | 63  | 62   | 51  | 48   | 22  |
| 23                                     | 71   | 35  | 47   | 21  | 68   | 35  | 84   | 51  | 90   | 61  | 89                                           | 66  | 86   | 57  | 93   | 72  | 88   | 59  | 72   | 56  | 62   | 34  | 58   | 21  |
| 24                                     | 72   | 46  | 52   | 32  | 64   | 50  | 80   | 49  | 87   | 63  | 89                                           | 66  | 91   | 67  | 85   | 68  | 86   | 68  | 67   | 43  | 57   | 28  | 59   | 34  |
| 25                                     | 65   | 40  | 64   | 38  | 51   | 44  | 54   | 41  | 84   | 61  | 81                                           | 67  | 92   | 71  | 86   | 70  | 77   | 61  | 60   | 30  | 55   | 28  | 67   | 51  |
| 26                                     | 65   | 33  | 39   | 28  | 67   | 42  | 75   | 47  | 92   | 64  | 78                                           | 61  | 90   | 71  | 90   | 70  | 74   | 48  | 67   | 31  | 66   | 41  | 55   | 35  |
| 27                                     | 63   | 42  | 54   | 17  | 66   | 50  | 80   | 65  | 92   | 66  | 83                                           | 59  | 87   | 70  | 93   | 70  | 75   | 51  | 71   | 32  | 72   | 62  | 44   | 17  |
| 28                                     | 51   | 22  | 71   | 36  | 67   | 32  | 66   | 51  | 87   | 66  | 88                                           | 63  | 75   | 68  | 91   | 74  | 70   | 57  | 69   | 34  | 67   | 34  | 48   | 20  |
| 29                                     | 58   | 38  | --   | --  | 73   | 47  | 65   | 44  | 86   | 61  | 91                                           | 69  | 78   | 64  | 85   | 51  | 76   | 57  | 63   | 32  | 55   | 28  | 54   | 19  |
| 30                                     | 54   | 22  | ---  | --- | 68   | 48  | 74   | 41  | 76   | 53  | 92                                           | 69  | 80   | 67  | 78   | 44  | 80   | 47  | 64   | 20  | 44   | 19  | 67   | 25  |
| 31                                     | 30   | 16  | ---  | --- | 57   | 33  | ---  | --- | 79   | 48  | ---                                          | --- | 83   | 62  | 80   | 51  | ---  | --- | 73   | 34  | ---  | --- | 71   | 55  |
| AV.                                    | 54   | 29  | 55   | 33  | 59   | 36  | 71   | 46  | 85   | 58  | 83                                           | 61  | 86   | 65  | 88   | 66  | 83   | 61  | 73   | 46  | 65   | 38  | 57   | 31  |
| MEAN                                   | 41.9 |     | 43.9 |     | 47.3 |     | 58.9 |     | 71.3 |     | 72.1                                         |     | 75.8 |     | 77.1 |     | 72.3 |     | 59.2 |     | 51.8 |     | 44.2 |     |
| STA AV                                 | 52   | 29  | 56   | 32  | 63   | 38  | 74   | 47  | 81   | 55  | 86                                           | 62  | 89   | 66  | 88   | 65  | 83   | 59  | 73   | 48  | 65   | 39  | 54   | 30  |

NOTES: TEMPERATURE DATA FROM U.S. WEATHER BUREAU STATION AT LEWISTON, N.C. RECORDS BEGAN MARCH 1954.

| 1964 DAILY PRECIPITATION (inches) |     |     |     |     |     | AHOSKIE, NORTH CAROLINA |      |      |      |      |      |      | 75.1 |
|-----------------------------------|-----|-----|-----|-----|-----|-------------------------|------|------|------|------|------|------|------|
| DAY                               | JAN | FEB | MAR | APR | MAY | JUNE                    | JULY | AUG  | SEPT | OCT  | NOV  | DEC  |      |
| 1                                 |     |     |     |     |     |                         | .00  | .00  | .16  | .21  | .00  | .00  |      |
| 2                                 |     |     |     |     |     |                         | .00  | .00  | .00  | .37  | .00  | .00  |      |
| 3                                 |     |     |     |     |     |                         | .00  | 1.79 | .00  | .01  | .00  | .00  |      |
| 4                                 |     |     |     |     |     |                         | .99  | .91  | .00  | 1.77 | .00  | .21  |      |
| 5                                 |     |     |     |     |     |                         | .00  | .00  | .00  | 2.66 | .00  | .24  |      |
| 6                                 |     |     |     |     |     |                         | .00  | .00  | .00  | .00  | .00  | .00  |      |
| 7                                 |     |     |     |     |     |                         | .00  | .00  | .00  | .02  | .00  | .00  |      |
| 8                                 |     |     |     |     |     |                         | .02  | .11  | .00  | .01  | .05  | .00  |      |
| 9                                 |     |     |     |     |     |                         | 1.51 | .10  | .00  | .01  | .00  | .00  |      |
| 10                                |     |     |     |     |     |                         | .00  | .00  | .14  | .00  | .00  | .00  |      |
| 11                                |     |     |     |     |     |                         | .00  | .00  | .45  | .00  | .00  | .00  |      |
| 12                                |     |     |     |     |     |                         | .11  | .00  | .39  | .02  | .00  | .13  |      |
| 13                                |     |     |     |     |     |                         | .26  | .00  | 3.75 | .01  | .00  | .00  |      |
| 14                                |     |     |     |     |     |                         | .00  | .00  | .04  | .01  | .00  | .00  |      |
| 15                                |     |     |     |     |     |                         | .00  | .00  | .00  | .00  | .00  | .00  |      |
| 16                                |     |     |     |     |     |                         | .00  | .29  | .00  | .35  | .00  | .00  |      |
| 17                                |     |     |     |     |     |                         | .12  | .28  | .00  | .90  | .00  | .26  |      |
| 18                                |     |     |     |     |     |                         | .69  | .00  | .00  | .00  | .00  | .02  |      |
| 19                                |     |     |     |     |     |                         | .21  | .00  | .00  | .03  | .16  | .02  |      |
| 20                                |     |     |     |     |     |                         | .08  | .24  | .00  | .21  | .40  | .39  |      |
| 21                                |     |     |     |     |     |                         | .47  | .00  | .00  | .01  | .00  | .00  |      |
| 22                                |     |     |     |     |     |                         | .16  | .00  | .00  | .00  | .00  | .00  |      |
| 23                                |     |     |     |     |     |                         | .10  | .00  | .00  | .00  | .00  | .00  |      |
| 24                                |     |     |     |     |     |                         | .39  | .00  | .00  | .00  | .00  | .00  |      |
| 25                                |     |     |     |     |     |                         | .00  | .00  | .00  | .00  | .90  | .04  |      |
| 26                                |     |     |     |     |     |                         | .00  | .20  | .00  | .00  | .02  | 2.44 |      |
| 27                                |     |     |     |     |     |                         | .27  | .00  | .00  | .00  | .00  | .38  |      |
| 28                                |     |     |     |     |     |                         | 1.67 | .00  | .63  | .00  | .00  | .02  |      |
| 29                                |     |     |     |     |     |                         | .25  | .68  | .27  | .00  | .06  | .00  |      |
| 30                                |     |     |     |     |     |                         | .00  | .06  | .74  | .00  | .00  | .00  |      |
| 31                                |     |     |     |     |     |                         | .00  | 4.26 |      | .00  |      | .00  |      |
| TOTAL                             |     |     |     |     |     |                         | 7.30 | 8.92 | 6.57 | 6.60 | 1.59 | 4.15 |      |
| STA AV                            |     |     |     |     |     |                         |      |      |      |      |      |      |      |

NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 9 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.

| 1965 DAILY PRECIPITATION (inches) |      |      |      |      |      | AHOSKIE, NORTH CAROLINA |      |      |      |     |     |     | 75.1 |
|-----------------------------------|------|------|------|------|------|-------------------------|------|------|------|-----|-----|-----|------|
| DAY                               | JAN  | FEB  | MAR  | APR  | MAY  | JUNE                    | JULY | AUG  | SEPT | OCT | NOV | DEC |      |
| 1                                 | .00  | .00  | .00  | .00  | .00  | .00                     | .00  | 1.50 | .00  | .00 | .00 | .00 |      |
| 2                                 | .00  | .12  | .46  | .00  | .00  | .00                     | .00  | .00  | .25  | .02 | .00 | .00 |      |
| 3                                 | .00  | .00  | .00  | .00  | .00  | .00                     | .00  | .00  | .00  | .00 | .00 | .00 |      |
| 4                                 | .00  | .00  | .46  | .00  | .00  | .00                     | .38  | .00  | .00  | .00 | .00 | .00 |      |
| 5                                 | .00  | .00  | .16  | .00  | .00  | .00                     | .34  | .00  | .00  | .00 | .00 | .00 |      |
| 6                                 | .00  | .00  | .00  | .42  | .00  | .00                     | .10  | .00  | .00  | .00 | .00 | .00 |      |
| 7                                 | .00  | .48  | .00  | .06  | .00  | .00                     | .26  | .00  | .00  | .92 | .00 | .00 |      |
| 8                                 | .00  | .04  | .00  | .00  | .00  | .20                     | .05  | .00  | .00  | .00 | .00 | .00 |      |
| 9                                 | .00  | .00  | .00  | .00  | .00  | .20                     | .01  | .06  | .00  | .00 | .00 | .00 |      |
| 10                                | .07  | .00  | .00  | .00  | .00  | .00                     | .21  | .09  | .00  | .00 | .00 | .00 |      |
| 11                                | .00  | .14  | .00  | .00  | .04  | 1.86                    | 2.27 | .00  | 1.12 | .00 | .00 | .00 |      |
| 12                                | .00  | .15  | .00  | .00  | .00  | .41                     | .04  | .00  | .08  | .00 | .00 | .05 |      |
| 13                                | .00  | .21  | .00  | .00  | .02  | .00                     | .00  | .00  | .01  | .00 | .10 | .24 |      |
| 14                                | .00  | 1.19 | .00  | .00  | .00  | .00                     | .00  | .07  | .18  | .00 | .00 | .00 |      |
| 15                                | .22  | .11  | .00  | .07  | .00  | .90                     | 2.01 | .00  | .02  | .00 | .00 | .00 |      |
| 16                                | .28  | .00  | .00  | .00  | .00  | 1.47                    | .00  | .00  | .02  | .00 | .00 | .00 |      |
| 17                                | .16  | .00  | .69  | .00  | .07  | .00                     | .00  | .00  | .57  | .00 | .00 | .00 |      |
| 18                                | .13  | .00  | .05  | .00  | .00  | .00                     | .23  | .00  | .00  | .00 | .02 | .00 |      |
| 19                                | .02  | .00  | .03  | .00  | .00  | .00                     | .00  | .53  | .00  | .00 | .00 | .00 |      |
| 20                                | .00  | .00  | .29  | .06  | .05  | .00                     | .00  | .02  | .00  | .00 | .00 | .00 |      |
| 21                                | .00  | .00  | .06  | .01  | .00  | .00                     | .00  | .00  | .00  | .00 | .04 | .00 |      |
| 22                                | .00  | .00  | .00  | .00  | .00  | .00                     | .00  | .53  | .00  | .00 | .48 | .00 |      |
| 23                                | .00  | .00  | .26  | .03  | .00  | .00                     | .00  | .26  | .00  | .00 | .01 | .00 |      |
| 24                                | .36  | .01  | .00  | .00  | .00  | .10                     | .00  | .00  | .78  | .00 | .00 | .00 |      |
| 25                                | .00  | .40  | .65  | .11  | .00  | .03                     | .00  | .04  | .00  | .00 | .00 | .17 |      |
| 26                                | .00  | .00  | .04  | .05  | .00  | .00                     | .14  | .69  | .00  | .00 | .00 | .00 |      |
| 27                                | .00  | .00  | .00  | 1.22 | 1.62 | .00                     | .38  | .00  | .00  | .00 | .00 | .00 |      |
| 28                                | .00  | .00  | .00  | .03  | .00  | .00                     | .85  | .33  | .00  | .00 | .00 | .00 |      |
| 29                                | .00  |      | .10  | .01  | .00  | .20                     | .26  | .01  | .00  | .00 | .00 | .00 |      |
| 30                                | .30  |      | .00  | .00  | .04  | .00                     | .00  | .00  | .00  | .00 | .00 | .00 |      |
| 31                                | .15  |      | .00  |      | .00  |                         | .00  | .00  |      | .00 |     | .00 |      |
| TOTAL                             | 1.69 | 2.85 | 3.25 | 2.07 | 1.84 | 5.37                    | 7.53 | 4.13 | 3.03 | .94 | .65 | .46 |      |
| STA AV                            |      |      |      |      |      |                         |      |      |      |     |     |     |      |

NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 10 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.

| 1964 MEAN DAILY DISCHARGE (cfs) |     |     |     |     |     | AHOSKIE, NORTH CAROLINA WATERSHED W-A1 75.01 |       |       |        |        |       |        |
|---------------------------------|-----|-----|-----|-----|-----|----------------------------------------------|-------|-------|--------|--------|-------|--------|
| DAY                             | JAN | FEB | MAR | APR | MAY | JUNE                                         | JULY  | AUG   | SEPT   | OCT    | NOV   | DEC    |
| 1                               |     |     |     |     |     |                                              | 5.2   | 15.0  | 1030.0 | 99.0   | 21.0  | 24.0   |
| 2                               |     |     |     |     |     |                                              | 5.2   | 13.0  | 260.0  | 68.0   | 20.0  | 22.0   |
| 3                               |     |     |     |     |     |                                              | 5.2   | 90.0  | 88.0   | 84.0   | 20.0  | 22.0   |
| 4                               |     |     |     |     |     |                                              | 7.0   | 696.0 | 40.0   | 174.0  | 18.0  | 22.0   |
| 5                               |     |     |     |     |     |                                              | 14.0  | 136.0 | 26.0   | 1990.0 | 18.0  | 28.0   |
| 6                               |     |     |     |     |     |                                              | 6.2   | 49.0  | 19.0   | 2490.0 | 18.0  | 36.0   |
| 7                               |     |     |     |     |     |                                              | 5.2   | 28.0  | 15.0   | 1080.0 | 18.0  | 32.0   |
| 8                               |     |     |     |     |     |                                              | 5.2   | 24.0  | 12.0   | 246.0  | 18.0  | 28.0   |
| 9                               |     |     |     |     |     |                                              | 6.2   | 23.0  | 11.0   | 132.0  | 18.0  | 26.0   |
| 10                              |     |     |     |     |     |                                              | 139.0 | 16.0  | 10.0   | 90.0   | 18.0  | 24.0   |
| 11                              |     |     |     |     |     |                                              | 22.0  | 15.0  | 12.0   | 64.0   | 18.0  | 22.0   |
| 12                              |     |     |     |     |     |                                              | 15.0  | 14.0  | 16.0   | 50.0   | 18.0  | 22.0   |
| 13                              |     |     |     |     |     |                                              | 14.0  | 13.0  | 686.0  | 40.0   | 18.0  | 22.0   |
| 14                              |     |     |     |     |     |                                              | 15.0  | 12.0  | 1020.0 | 34.0   | 18.0  | 22.0   |
| 15                              |     |     |     |     |     |                                              | 12.0  | 12.0  | 270.0  | 32.0   | 18.0  | 22.0   |
| 16                              |     |     |     |     |     |                                              | 10.0  | 12.0  | 109.0  | 34.0   | 18.0  | 20.0   |
| 17                              |     |     |     |     |     |                                              | 9.8   | 14.0  | 60.0   | 170.0  | 18.0  | 20.0   |
| 18                              |     |     |     |     |     |                                              | 13.0  | 12.0  | 40.0   | 196.0  | 18.0  | 24.0   |
| 19                              |     |     |     |     |     |                                              | 20.0  | 10.0  | 30.0   | 95.0   | 18.0  | 24.0   |
| 20                              |     |     |     |     |     |                                              | 12.0  | 16.0  | 24.0   | 65.0   | 20.0  | 32.0   |
| 21                              |     |     |     |     |     |                                              | 13.0  | 10.0  | 20.0   | 64.0   | 20.0  | 49.0   |
| 22                              |     |     |     |     |     |                                              | 18.0  | 9.2   | 19.0   | 51.0   | 18.0  | 42.0   |
| 23                              |     |     |     |     |     |                                              | 12.0  | 8.9   | 18.0   | 42.0   | 18.0  | 38.0   |
| 24                              |     |     |     |     |     |                                              | 16.0  | 8.3   | 16.0   | 36.0   | 18.0  | 34.0   |
| 25                              |     |     |     |     |     |                                              | 14.0  | 8.0   | 15.0   | 33.0   | 28.0  | 32.0   |
| 26                              |     |     |     |     |     |                                              | 10.0  | 8.0   | 14.0   | 30.0   | 50.0  | 480.0  |
| 27                              |     |     |     |     |     |                                              | 11.0  | 8.6   | 14.0   | 27.0   | 37.0  | 1890.0 |
| 28                              |     |     |     |     |     |                                              | 19.0  | 7.5   | 16.0   | 26.0   | 32.0  | 942.0  |
| 29                              |     |     |     |     |     |                                              | 309.0 | 18.0  | 26.0   | 24.0   | 28.0  | 292.0  |
| 30                              |     |     |     |     |     |                                              | 38.0  | 31.0  | 33.0   | 23.0   | 26.0  | 175.0  |
| 31                              |     |     |     |     |     |                                              | 20.0  | 106.0 | -----  | 22.0   | ----- | 138.0  |
| MEAN                            |     |     |     |     |     |                                              | 26.5  | 46.6  | 132.3  | 245.5  | 21.5  | 148.6  |
| INCHES                          |     |     |     |     |     |                                              | .54   | .94   | 2.59   | 4.96   | .42   | 3.01   |

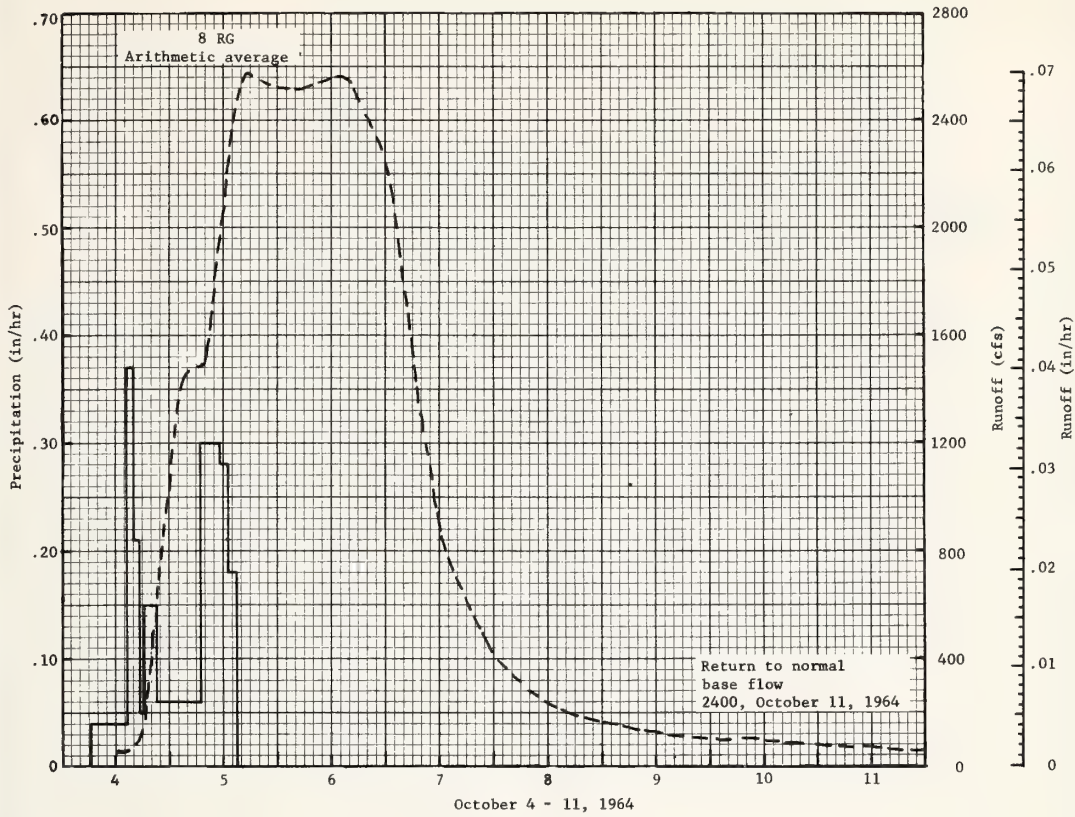
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0006525. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR.

| 1965 MEAN DAILY DISCHARGE (cfs) |       |       |       |       |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A1 75.01 |        |       |       |      |       |     |
|---------------------------------|-------|-------|-------|-------|------|----------------------------------------------|--------|-------|-------|------|-------|-----|
| DAY                             | JAN   | FEB   | MAR   | APR   | MAY  | JUNE                                         | JULY   | AUG   | SEPT  | OCT  | NOV   | DEC |
| 1                               | 115.0 | 64.0  | 55.0  | 61.0  | 38.0 | 11.0                                         | 13.0   | 83.0  | 12.0  | 7.1  | 6.0   | 5.6 |
| 2                               | 101.0 | 104.0 | 52.0  | 59.0  | 27.0 | 10.0                                         | 12.0   | 522.0 | 14.0  | 7.1  | 6.0   | 5.6 |
| 3                               | 90.0  | 128.0 | 142.0 | 50.0  | 22.0 | 9.8                                          | 11.0   | 148.0 | 12.0  | 7.1  | 5.8   | 5.6 |
| 4                               | 82.0  | 95.0  | 118.0 | 44.0  | 18.0 | 9.5                                          | 11.0   | 61.0  | 12.0  | 6.8  | 6.0   | 5.8 |
| 5                               | 75.0  | 83.0  | 353.0 | 37.0  | 16.0 | 9.5                                          | 14.0   | 38.0  | 11.0  | 6.8  | 5.8   | 5.8 |
| 6                               | 71.0  | 78.0  | 224.0 | 44.0  | 16.0 | 8.8                                          | 12.0   | 27.0  | 11.0  | 6.8  | 6.0   | 5.8 |
| 7                               | 68.0  | 96.0  | 138.0 | 79.0  | 15.0 | 8.4                                          | 11.0   | 21.0  | 11.0  | 11.0 | 6.0   | 5.8 |
| 8                               | 65.0  | 244.0 | 100.0 | 62.0  | 14.0 | 9.1                                          | 12.0   | 18.0  | 11.0  | 14.0 | 5.8   | 5.8 |
| 9                               | 63.0  | 162.0 | 78.0  | 49.0  | 14.0 | 11.0                                         | 11.0   | 17.0  | 11.0  | 8.7  | 5.8   | 5.8 |
| 10                              | 61.0  | 115.0 | 62.0  | 39.0  | 12.0 | 9.5                                          | 11.0   | 16.0  | 11.0  | 7.9  | 5.6   | 5.8 |
| 11                              | 62.0  | 102.0 | 52.0  | 34.0  | 12.0 | 9.5                                          | 284.0  | 15.0  | 11.0  | 7.4  | 5.6   | 5.8 |
| 12                              | 61.0  | 102.0 | 45.0  | 30.0  | 12.0 | 85.0                                         | 347.0  | 14.0  | 28.0  | 7.1  | 5.4   | 5.8 |
| 13                              | 60.0  | 141.0 | 40.0  | 27.0  | 12.0 | 37.0                                         | 94.0   | 13.0  | 12.0  | 7.1  | 5.6   | 6.6 |
| 14                              | 58.0  | 398.0 | 37.0  | 25.0  | 11.0 | 19.0                                         | 46.0   | 12.0  | 10.0  | 6.8  | 5.8   | 6.6 |
| 15                              | 58.0  | 828.0 | 33.0  | 24.0  | 11.0 | 26.0                                         | 177.0  | 12.0  | 11.0  | 7.1  | 5.6   | 6.0 |
| 16                              | 61.0  | 399.0 | 30.0  | 23.0  | 11.0 | 462.0                                        | 1230.0 | 11.0  | 9.0   | 6.8  | 5.6   | 6.0 |
| 17                              | 62.0  | 244.0 | 32.0  | 22.0  | 11.0 | 308.0                                        | 278.0  | 10.0  | 9.0   | 6.8  | 5.4   | 6.0 |
| 18                              | 62.0  | 166.0 | 160.0 | 21.0  | 11.0 | 125.0                                        | 102.0  | 10.0  | 21.0  | 6.6  | 5.2   | 6.0 |
| 19                              | 62.0  | 125.0 | 118.0 | 20.0  | 10.0 | 62.0                                         | 84.0   | 12.0  | 10.0  | 6.6  | 5.4   | 6.0 |
| 20                              | 61.0  | 96.0  | 125.0 | 20.0  | 10.0 | 37.0                                         | 54.0   | 18.0  | 8.5   | 6.6  | 5.4   | 6.0 |
| 21                              | 69.0  | 79.0  | 128.0 | 20.0  | 9.8  | 26.0                                         | 35.0   | 11.0  | 8.2   | 6.6  | 5.4   | 6.0 |
| 22                              | 83.0  | 65.0  | 92.0  | 19.0  | 9.8  | 20.0                                         | 27.0   | 12.0  | 7.6   | 6.6  | 6.6   | 6.0 |
| 23                              | 102.0 | 56.0  | 77.0  | 18.0  | 9.8  | 17.0                                         | 23.0   | 23.0  | 7.6   | 6.6  | 6.6   | 6.0 |
| 24                              | 111.0 | 52.0  | 103.0 | 19.0  | 9.1  | 16.0                                         | 20.0   | 17.0  | 9.0   | 6.6  | 5.8   | 6.0 |
| 25                              | 143.0 | 114.0 | 121.0 | 18.0  | 9.1  | 21.0                                         | 16.0   | 14.0  | 16.0  | 6.6  | 5.6   | 6.6 |
| 26                              | 109.0 | 121.0 | 415.0 | 19.0  | 8.8  | 17.0                                         | 15.0   | 20.0  | 8.7   | 6.6  | 5.8   | 6.6 |
| 27                              | 90.0  | 96.0  | 249.0 | 24.0  | 9.5  | 15.0                                         | 14.0   | 16.0  | 7.9   | 6.6  | 5.8   | 6.0 |
| 28                              | 77.0  | 71.0  | 137.0 | 118.0 | 56.0 | 14.0                                         | 45.0   | 15.0  | 7.6   | 6.6  | 5.6   | 6.0 |
| 29                              | 68.0  | ----- | 98.0  | 91.0  | 17.0 | 14.0                                         | 58.0   | 19.0  | 7.6   | 6.3  | 5.6   | 6.0 |
| 30                              | 65.0  | ----- | 78.0  | 57.0  | 13.0 | 14.0                                         | 76.0   | 14.0  | 7.4   | 6.3  | 5.6   | 6.0 |
| 31                              | 65.0  | ----- | 66.0  | ----- | 11.0 | -----                                        | 44.0   | 12.0  | ----- | 6.3  | ----- | 6.0 |
| MEAN                            | 76.8  | 158.0 | 114.8 | 39.1  | 15.0 | 48.0                                         | 102.8  | 40.4  | 11.1  | 7.2  | 5.7   | 6.0 |
| INCHES                          | 1.55  | 2.89  | 2.32  | .76   | .30  | .94                                          | 2.08   | .82   | .22   | .15  | .11   | .12 |

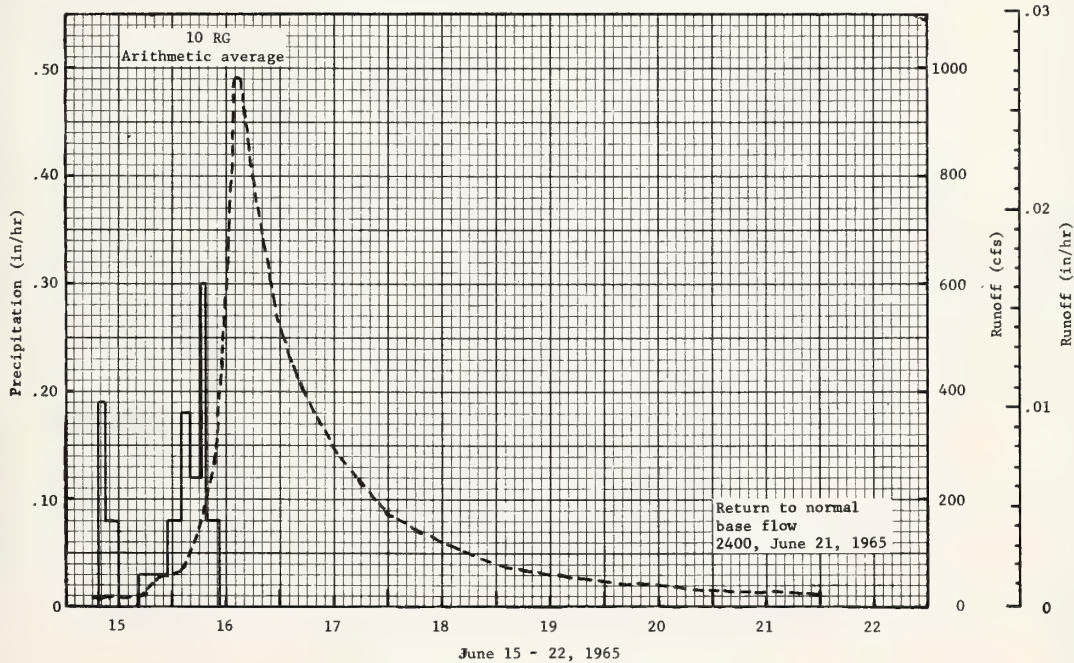
NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0006525. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE GOOD TO FAIR.



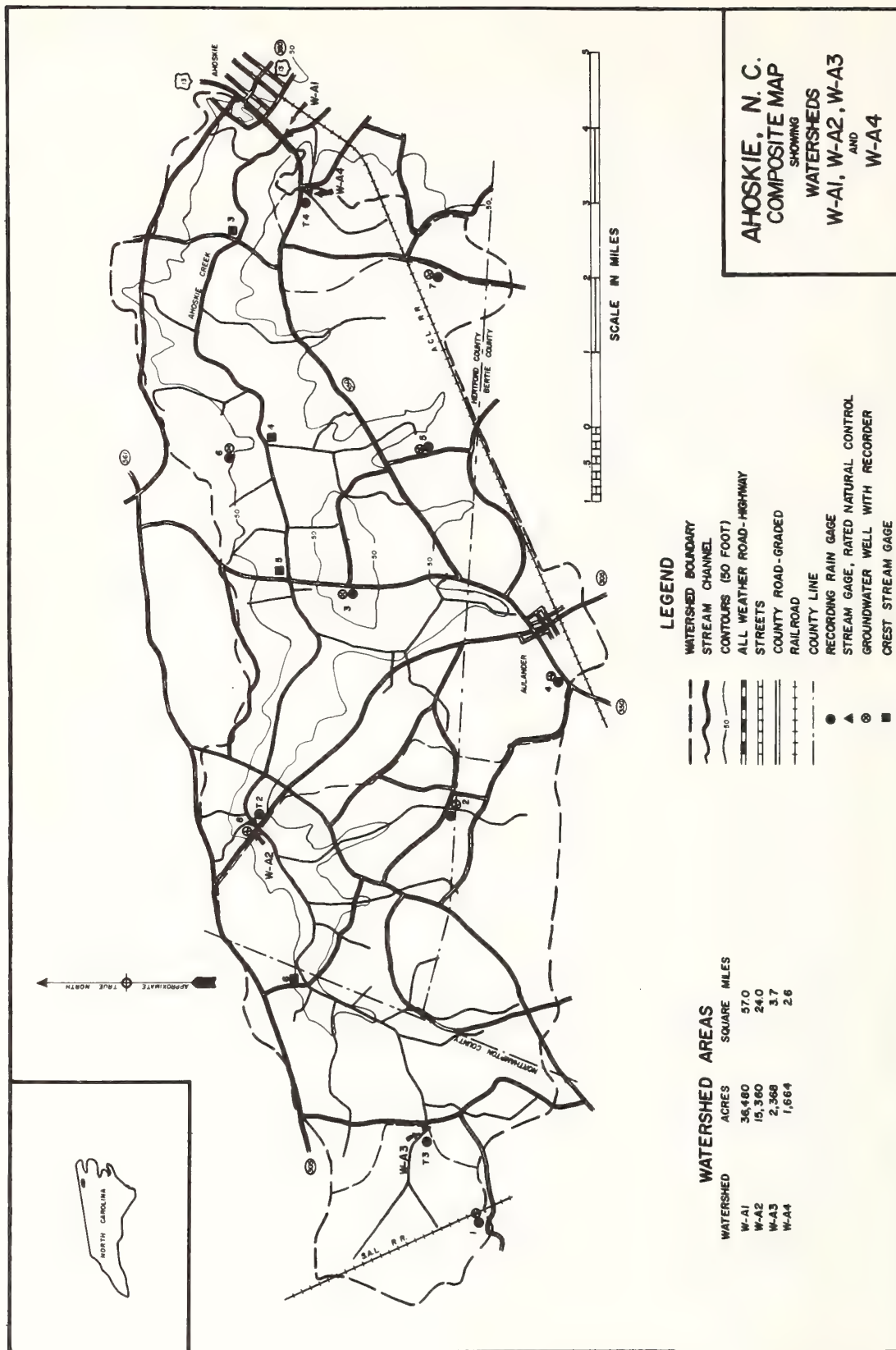




AHOSKIE, NORTH CAROLINA WATERSHED W-A1



AHOSKIE, NORTH CAROLINA WATERSHED W-A1





# AHOSKIE, NORTH CAROLINA WATERSHED W-A2

**LOCATION:** Hertford, Bertie, and Northampton Counties, North Carolina; approximately 5 miles northwest of Aulander; Chowan River Basin.

**AREA:** 15,360 acres (24.0 sq. miles)

|                |                        |            |            |
|----------------|------------------------|------------|------------|
| <b>SLOPES:</b> | <b>Slope-Percent</b>   | <b>0-2</b> | <b>2-6</b> |
|                | <b>Percent of area</b> | <b>97</b>  | <b>3</b>   |

**SOILS:** Derived from moderately fine textured sediments.

| Type                                      | Percent of area | Topsoil          |                                            |                    | Subsoil                                 |               | Substratum         |                    | Internal drainage    |
|-------------------------------------------|-----------------|------------------|--------------------------------------------|--------------------|-----------------------------------------|---------------|--------------------|--------------------|----------------------|
|                                           |                 | Avg. depth (in.) | Structure                                  | Perme-ability      | Structure                               | Perme-ability | Avg. depth to(in.) | Perme-ability      |                      |
| Coxville<br>fine sandy loam,<br>silt loam | 48              | 8                | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>subangular blocky | Slow          | 38                 | Slow               | Slow                 |
| Lenoir<br>fine sandy loam,<br>silt loam   | 24              | 7                | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>angular blocky    | Slow          | 36                 | Slow               | Slow to<br>very slow |
| Craven<br>fine sandy loam                 | 10              | 12               | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>subangular blocky | Slow          | 42                 | Slow               | Medium               |
| Chastain<br>clay loam                     | 4               | 9                | Moderate<br>medium<br>subangular<br>blocky | Moderately<br>slow | Moderate<br>medium<br>angular blocky    | Slow          | 60                 | Slow               | Slow to<br>very slow |
| Marlboro<br>fine sandy loam               | 4               | 9                | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>subangular blocky | Moderate      | 32                 | Moderate           | Medium               |
| Duplin<br>fine sandy loam                 | 3               | 8                | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>subangular blocky | Moderate      | 34                 | Moderate           | Medium               |
| Norfolk<br>loamy fine sand,<br>sandy loam | 3               | 12               | Weak<br>fine<br>granular                   | Moderate           | Weak<br>medium<br>subangular blocky     | Moderate      | 36                 | Moderate           | Medium               |
| Dunbar<br>fine sandy loam                 | 2               | 15               | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>subangular blocky | Moderate      | 30                 | Moderately<br>slow | Slow                 |
| Caroline<br>fine sandy loam               | 1               | 12               | Weak<br>fine<br>granular                   | Moderate           | Moderate<br>medium<br>angular blocky    | Slow          | 31                 | Slow               | Medium               |
| Faceville<br>fine sandy loam              | 1               | 10               | Weak<br>fine<br>granular                   | Rapid              | Moderate<br>medium<br>subangular blocky | Moderate      | 28                 | Moderately<br>slow | Medium               |

|                 |                        |           |          |
|-----------------|------------------------|-----------|----------|
| <b>EROSION:</b> | <b>Erosion class</b>   | <b>1</b>  | <b>2</b> |
|                 | <b>Percent of area</b> | <b>99</b> | <b>1</b> |

|                         |                        |          |           |            |           |
|-------------------------|------------------------|----------|-----------|------------|-----------|
| <b>LAND CAPABILITY:</b> | <b>Class</b>           | <b>I</b> | <b>II</b> | <b>III</b> | <b>IV</b> |
|                         | <b>Percent of area</b> | <b>5</b> | <b>18</b> | <b>72</b>  | <b>5</b>  |

**GEOLOGY:** The watershed is located in the Southern Coastal Plain Land Resource Area and is underlain by sedimentary formations that thicken to the east and dip approximately 15 ft. to 30 ft. per mile in a southeasterly direction. Clay, sand, and gravel surficial deposits of Quaternary age vary in thickness from 10 ft. to 40 ft. and overlay late Miocene Yorktown formation sediments throughout the watershed. The Yorktown formation varies from 30 ft. to 75 ft. in thickness and is composed of locally lenticular blue-gray clays, sands, marl, and shell beds. Underlying the Yorktown is the Beaufort formation of Paleocene age. This formation is composed of beds of glauconitic sand and calcareous clay from 40 ft. to 60 ft. thick, dipping to the southeast. The Beaufort lies directly on Upper Cretaceous sediments, which also dip to the southeast. The surface phreatic aquifer, the semi-confined aquifers, and the below-lying artesian aquifers are sources of groundwater in the area. Groundwater moves laterally in the surficial aquifer with minor amounts being lost to the under-lying artesian systems. The phreatic water discharges as effluent seepage into stream channels or moves laterally from the area as subsurface alluvial flow. The major recharge areas for the artesian aquifers (Yorktown, Beaufort, and Upper Cretaceous) lie west of the watershed. Source of data: North Carolina Dept. of Conservation and Development, Div. of Mineral Resources, Bulletins 51 and 73; also information from ARS, SWC drilling in the watershed area.

**SURFACE DRAINAGE:** Good; length of principal waterway approximately 6.7 miles. All major channels excavated prior to July 1964 and maintained continually for flood prevention and drainage.

**CHARACTER OF FLOW:** Perennial flow, continuous.

**INSTRUMENTATION:** Runoff: Water-stage recorder on channel section rated periodically by US Geological Survey. Precipitation: 3 weighing-type recording rain gages with 24-hour time scales and 2 tipping-bucket gages.

**WATERSHED CONDITIONS:** Woodland, 75%; row crops, 22%; pasture, 2%; roads and homesites, 1%.

**GENERALLY REPRESENTS:** Woodland and mixed row crops on coastal plain soils with extensive system of excavated channels for drainage and flood prevention. Applicable to areas of the Southern Coastal Plain (P-133) in the Carolinas and Virginia where channel improvement works have been installed.

Note: For map of watershed see page 75.1-8.



| MONTHLY PRECIPITATION AND RUNOFF <sup>1/</sup> <sup>2/</sup> (inches) |      |      |      |      |      | AHOSKIE, NORTH CAROLINA |      | WATERSHED W-A2   |      | 75.02 |      |      |        |
|-----------------------------------------------------------------------|------|------|------|------|------|-------------------------|------|------------------|------|-------|------|------|--------|
|                                                                       |      |      |      |      |      | AREA—15,360 ACRES       |      | (24.0 SQ. MILES) |      |       |      |      |        |
| MONTH                                                                 | JAN  | FEB  | MAR  | APR  | MAY  | JUNE                    | JULY | AUG              | SEPT | OCT   | NOV  | DEC  | ANNUAL |
| 1964 P                                                                |      |      |      |      |      |                         | 7.14 | 11.75            | 7.61 | 6.71  | 1.63 | 4.41 |        |
| Q                                                                     |      |      |      |      |      |                         | .41  | .64              | 2.87 | 3.79  | .36  | 2.78 |        |
| 1965 P                                                                | 1.70 | 2.75 | 3.07 | 2.11 | 2.12 | 5.81                    | 6.73 | 4.31             | 3.22 | .91   | .64  | .44  | 33.81  |
| Q                                                                     | .98  | 2.49 | 2.15 | .72  | .27  | 1.34                    | 1.44 | .79              | .23  | .12   | .09  | .09  | 10.71  |
| MEAN P <sup>4/</sup><br>56 YR                                         | 3.50 | 3.67 | 3.69 | 3.31 | 3.47 | 4.88                    | 5.75 | 4.56             | 4.02 | 2.87  | 2.79 | 3.33 | 45.84  |

| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS |                   |      |                                           |        |         |        |         |        |          |        |       |        |        |        |        |        |
|-----------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                  | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|                                                                                                                       |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                       | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                  | 7-15              | .05  | 7-15                                      | .05    | 7-15    | .10    | 7-15    | .27    | 7-15     | .49    | 6-16  | .62    | 6-16   | .83    | 2-12   | 1.29   |

| MAXIMUMS FOR PERIOD OF RECORD |      |     |      |     |      |     |      |     |      |     |      |      |      |      |      |      |
|-------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|
| 1964 TO                       | 10-5 | .08 | 10-5 | .08 | 10-5 | .17 | 10-5 | .50 | 10-5 | .97 | 10-5 | 1.64 | 10-4 | 2.37 | 10-3 | 3.06 |
| 1965                          | 1964 |     | 1964 |     | 1964 |     | 1964 |     | 1964 |     | 1964 |      | 1964 |      | 1964 |      |

NOTES: Watershed conditions: Woodland, 75%; row crops, 22%; pasture, 2%; roads and homesites 1%. 1/ Precipitation Thiessen weighted using 5 gages. 2/ Runoff data furnished by U.S. Geological Survey. 3/ STA AVG omitted since records after complete channel excavation only began July 1, 1964. 4/ Mean P based on 56-yr. (1910-1965) U.S. Weather Bureau record period at Scotland Neck, N. C. Missing records for Oct. 1920, May 1945, Jan. and May 1949, Jan., Feb., and Mar. 1950, and Nov. 1951 estimated from nearby station.

| 1964 DAILY PRECIPITATION (inches) |     |     |     |     |     | AHOSKIE, NORTH CAROLINA |      | WATERSHED W-A2 |      | 75.2 |      |      |
|-----------------------------------|-----|-----|-----|-----|-----|-------------------------|------|----------------|------|------|------|------|
| DAY                               | JAN | FEB | MAR | APR | MAY | JUNE                    | JULY | AUG            | SEPT | OCT  | NOV  | DEC  |
| 1                                 |     |     |     |     |     |                         | .00  | .00            | .19  | .19  | .00  | .00  |
| 2                                 |     |     |     |     |     |                         | .00  | .00            | .00  | .50  | .00  | .00  |
| 3                                 |     |     |     |     |     |                         | .00  | 1.25           | .00  | .00  | .00  | .00  |
| 4                                 |     |     |     |     |     |                         | .97  | 1.60           | .00  | 1.82 | .00  | .22  |
| 5                                 |     |     |     |     |     |                         | .00  | .00            | .00  | 2.78 | .00  | .24  |
| 6                                 |     |     |     |     |     |                         | .00  | .00            | .00  | .00  | .00  | .00  |
| 7                                 |     |     |     |     |     |                         | .00  | .00            | .00  | .00  | .00  | .00  |
| 8                                 |     |     |     |     |     |                         | .00  | .03            | .00  | .00  | .07  | .00  |
| 9                                 |     |     |     |     |     |                         | 1.64 | .13            | .00  | .00  | .00  | .00  |
| 10                                |     |     |     |     |     |                         | .00  | .00            | .33  | .00  | .00  | .00  |
| 11                                |     |     |     |     |     |                         | .00  | .00            | .40  | .00  | .00  | .00  |
| 12                                |     |     |     |     |     |                         | .22  | .00            | .55  | .00  | .00  | .15  |
| 13                                |     |     |     |     |     |                         | .24  | .00            | 4.58 | .00  | .00  | .00  |
| 14                                |     |     |     |     |     |                         | .00  | .00            | .06  | .00  | .00  | .00  |
| 15                                |     |     |     |     |     |                         | .00  | .00            | .00  | .00  | .00  | .00  |
| 16                                |     |     |     |     |     |                         | .00  | .21            | .00  | .32  | .00  | .00  |
| 17                                |     |     |     |     |     |                         | .17  | .35            | .00  | .84  | .00  | .25  |
| 18                                |     |     |     |     |     |                         | .53  | .00            | .00  | .01  | .00  | .05  |
| 19                                |     |     |     |     |     |                         | .31  | .00            | .00  | .04  | .10  | .03  |
| 20                                |     |     |     |     |     |                         | .13  | .25            | .00  | .21  | .48  | .39  |
| 21                                |     |     |     |     |     |                         | .41  | .00            | .00  | .00  | .00  | .00  |
| 22                                |     |     |     |     |     |                         | .26  | .00            | .00  | .00  | .00  | .00  |
| 23                                |     |     |     |     |     |                         | .23  | .00            | .00  | .00  | .00  | .00  |
| 24                                |     |     |     |     |     |                         | .15  | .00            | .00  | .00  | .00  | .00  |
| 25                                |     |     |     |     |     |                         | .00  | .00            | .00  | .00  | .89  | .08  |
| 26                                |     |     |     |     |     |                         | .00  | .28            | .00  | .00  | .04  | 2.59 |
| 27                                |     |     |     |     |     |                         | .00  | .00            | .00  | .00  | .00  | .39  |
| 28                                |     |     |     |     |     |                         | 1.64 | .00            | .51  | .00  | .00  | .02  |
| 29                                |     |     |     |     |     |                         | .24  | .44            | .25  | .00  | .05  | .00  |
| 30                                |     |     |     |     |     |                         | .00  | .00            | .74  | .00  | .00  | .00  |
| 31                                |     |     |     |     |     |                         | .00  | 7.21           |      | .00  |      | .00  |
| TOTAL                             |     |     |     |     |     |                         | 7.14 | 11.75          | 7.61 | 6.71 | 1.63 | 4.41 |
| STA AV                            |     |     |     |     |     |                         |      |                |      |      |      |      |

NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 5 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.

| 1965 DAILY PRECIPITATION (inches) |      |       |      |       |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A2 75.2 |      |      |       |     |       |     |
|-----------------------------------|------|-------|------|-------|------|---------------------------------------------|------|------|-------|-----|-------|-----|
| DAY                               | JAN  | FEB   | MAR  | APR   | MAY  | JUNE                                        | JULY | AUG  | SEPT  | OCT | NOV   | DEC |
| 1                                 | .00  | .00   | .00  | .00   | .00  | .00                                         | .00  | 1.85 | .00   | .00 | .00   | .00 |
| 2                                 | .00  | .10   | .43  | .00   | .00  | .00                                         | .00  | .00  | .22   | .04 | .00   | .00 |
| 3                                 | .00  | .00   | .00  | .00   | .00  | .00                                         | .00  | .00  | .00   | .00 | .00   | .00 |
| 4                                 | .00  | .00   | .34  | .00   | .00  | .00                                         | .55  | .00  | .00   | .00 | .00   | .00 |
| 5                                 | .00  | .00   | .22  | .00   | .00  | .00                                         | .32  | .00  | .00   | .00 | .00   | .00 |
| 6                                 | .00  | .00   | .00  | .46   | .00  | .00                                         | .13  | .00  | .00   | .00 | .00   | .00 |
| 7                                 | .00  | .33   | .00  | .04   | .00  | .00                                         | .22  | .00  | .00   | .87 | .00   | .00 |
| 8                                 | .00  | .08   | .00  | .00   | .00  | .06                                         | .12  | .00  | .00   | .00 | .00   | .00 |
| 9                                 | .00  | .00   | .00  | .00   | .00  | .22                                         | .02  | .06  | .00   | .00 | .00   | .00 |
| 10                                | .08  | .00   | .00  | .00   | .00  | .00                                         | .06  | .20  | .00   | .00 | .00   | .00 |
| 11                                | .00  | .16   | .00  | .00   | .08  | 2.21                                        | 1.74 | .00  | 1.44  | .00 | .00   | .00 |
| 12                                | .00  | .15   | .00  | .00   | .00  | .40                                         | .00  | .00  | .09   | .00 | .00   | .00 |
| 13                                | .00  | .25   | .00  | .00   | .04  | .00                                         | .00  | .00  | .00   | .00 | .08   | .29 |
| 14                                | .00  | 1.24  | .00  | .00   | .00  | .00                                         | .00  | .11  | .13   | .00 | .00   | .00 |
| 15                                | .11  | .06   | .00  | .06   | .00  | 1.07                                        | 1.81 | .00  | .00   | .00 | .00   | .00 |
| 16                                | .20  | .00   | .00  | .00   | .00  | 1.62                                        | .00  | .00  | .04   | .00 | .00   | .00 |
| 17                                | .14  | .00   | .64  | .00   | .03  | .00                                         | .00  | .00  | .54   | .00 | .00   | .00 |
| 18                                | .28  | .00   | .04  | .00   | .00  | .00                                         | .24  | .00  | .00   | .00 | .04   | .00 |
| 19                                | .04  | .00   | .05  | .00   | .00  | .00                                         | .00  | .25  | .00   | .00 | .00   | .00 |
| 20                                | .00  | .00   | .30  | .08   | .00  | .00                                         | .00  | .04  | .00   | .00 | .00   | .00 |
| 21                                | .00  | .00   | .05  | .00   | .00  | .00                                         | .00  | .00  | .00   | .00 | .03   | .00 |
| 22                                | .00  | .00   | .00  | .00   | .00  | .00                                         | .00  | .36  | .00   | .00 | .49   | .00 |
| 23                                | .00  | .00   | .24  | .08   | .00  | .00                                         | .00  | .21  | .00   | .00 | .00   | .00 |
| 24                                | .45  | .00   | .00  | .00   | .00  | .00                                         | .00  | .00  | .76   | .00 | .00   | .00 |
| 25                                | .00  | .38   | .57  | .14   | .00  | .00                                         | .00  | .07  | .00   | .00 | .00   | .15 |
| 26                                | .00  | .00   | .08  | .06   | .00  | .00                                         | .12  | .89  | .00   | .00 | .00   | .00 |
| 27                                | .00  | .00   | .00  | 1.12  | 1.91 | .00                                         | .22  | .00  | .00   | .00 | .00   | .00 |
| 28                                | .00  | .00   | .00  | .05   | .00  | .00                                         | .86  | .25  | .00   | .00 | .00   | .00 |
| 29                                | .00  | ----- | .11  | .02   | .00  | .23                                         | .32  | .02  | .00   | .00 | .00   | .00 |
| 30                                | .14  | ----- | .00  | .00   | .06  | .00                                         | .00  | .00  | .00   | .00 | .00   | .00 |
| 31                                | .26  | ----- | .00  | ----- | .00  | -----                                       | .00  | .00  | ----- | .00 | ----- | .00 |
| TOTAL<br>STA AV                   | 1.70 | 2.75  | 3.07 | 2.11  | 2.12 | 5.81                                        | 6.73 | 4.31 | 3.22  | .91 | .64   | .44 |

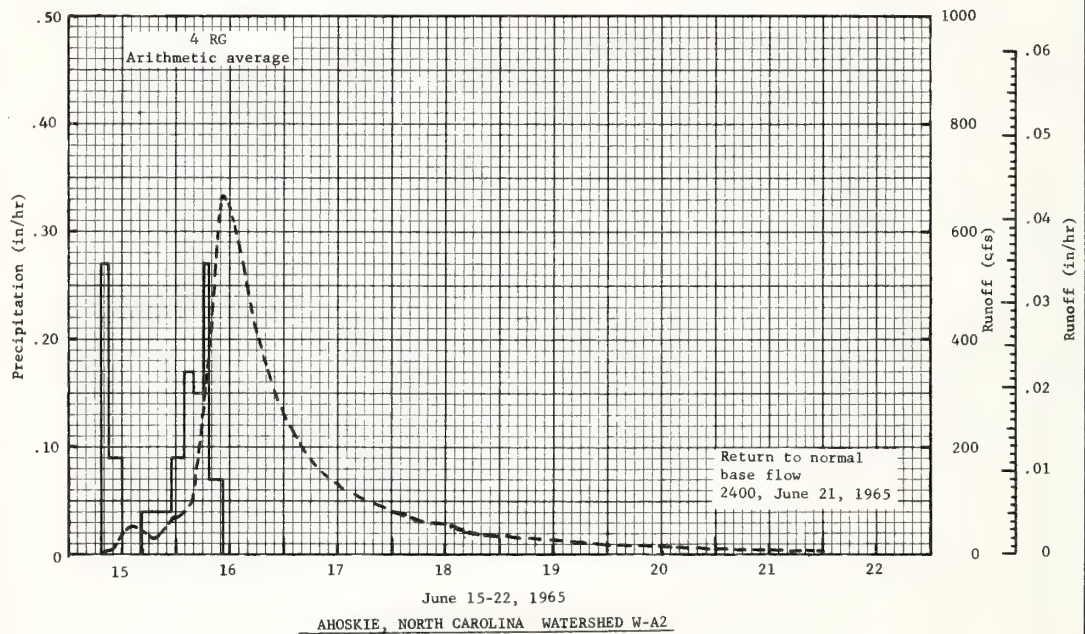
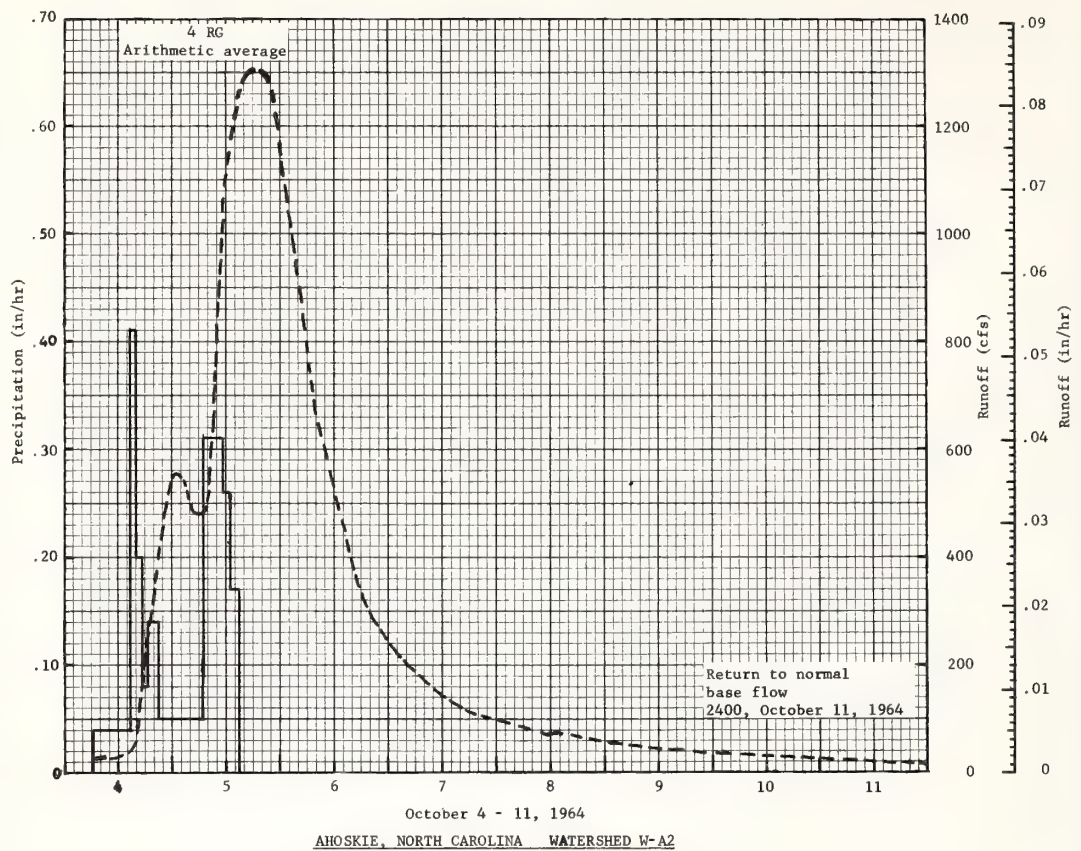
NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 5 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.

| 1964 MEAN DAILY DISCHARGE (cfs)                                                                                                                      |      |       |       |       |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A2 75.02 |       |       |       |       |       |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|-------|-------|------|----------------------------------------------|-------|-------|-------|-------|-------|-------|
| DAY                                                                                                                                                  | JAN  | FEB   | MAR   | APR   | MAY  | JUNE                                         | JULY  | AUG   | SEPT  | OCT   | NOV   | DEC   |
| 1                                                                                                                                                    |      |       |       |       |      |                                              | 2.1   | 5.4   | 637.0 | 37.0  | 6.4   | 8.7   |
| 2                                                                                                                                                    |      |       |       |       |      |                                              | 2.0   | 5.0   | 106.0 | 29.0  | 6.2   | 7.5   |
| 3                                                                                                                                                    |      |       |       |       |      |                                              | 1.9   | 6.6   | 43.0  | 42.0  | 6.2   | 7.5   |
| 4                                                                                                                                                    |      |       |       |       |      |                                              | 4.3   | 66.0  | 25.0  | 130.0 | 6.2   | 12.0  |
| 5                                                                                                                                                    |      |       |       |       |      |                                              | 3.8   | 19.0  | 14.0  | 937.0 | 6.0   | 15.0  |
| 6                                                                                                                                                    |      |       |       |       |      |                                              | 2.1   | 10.0  | 8.2   | 573.0 | 6.0   | 22.0  |
| 7                                                                                                                                                    |      |       |       |       |      |                                              | 2.0   | 7.5   | 5.8   | 148.0 | 6.0   | 16.0  |
| 8                                                                                                                                                    |      |       |       |       |      |                                              | 2.1   | 6.2   | 4.7   | 73.0  | 6.0   | 13.0  |
| 9                                                                                                                                                    |      |       |       |       |      |                                              | 55.0  | 6.0   | 4.5   | 44.0  | 6.2   | 12.0  |
| 10                                                                                                                                                   |      |       |       |       |      |                                              | 26.0  | 5.6   | 4.5   | 29.0  | 6.0   | 11.0  |
| 11                                                                                                                                                   |      |       |       |       |      |                                              | 7.0   | 5.4   | 5.8   | 20.0  | 5.8   | 9.9   |
| 12                                                                                                                                                   |      |       |       |       |      |                                              | 5.6   | 4.8   | 5.2   | 14.0  | 5.6   | 10.0  |
| 13                                                                                                                                                   |      |       |       |       |      |                                              | 6.4   | 4.7   | 412.0 | 12.0  | 5.4   | 11.0  |
| 14                                                                                                                                                   |      |       |       |       |      |                                              | 6.0   | 4.4   | 318.0 | 10.0  | 5.0   | 10.0  |
| 15                                                                                                                                                   |      |       |       |       |      |                                              | 4.7   | 4.2   | 90.0  | 9.7   | 4.8   | 8.0   |
| 16                                                                                                                                                   |      |       |       |       |      |                                              | 4.4   | 4.5   | 41.0  | 11.0  | 4.8   | 7.2   |
| 17                                                                                                                                                   |      |       |       |       |      |                                              | 4.5   | 4.8   | 25.0  | 78.0  | 4.8   | 7.7   |
| 18                                                                                                                                                   |      |       |       |       |      |                                              | 4.9   | 4.4   | 15.0  | 65.0  | 4.8   | 10.0  |
| 19                                                                                                                                                   |      |       |       |       |      |                                              | 8.0   | 4.2   | 11.0  | 33.0  | 4.8   | 8.7   |
| 20                                                                                                                                                   |      |       |       |       |      |                                              | 5.5   | 4.7   | 8.7   | 25.0  | 6.6   | 18.0  |
| 21                                                                                                                                                   |      |       |       |       |      |                                              | 5.0   | 4.2   | 7.2   | 24.0  | 6.4   | 22.0  |
| 22                                                                                                                                                   |      |       |       |       |      |                                              | 5.0   | 4.0   | 6.0   | 17.0  | 6.0   | 18.0  |
| 23                                                                                                                                                   |      |       |       |       |      |                                              | 3.9   | 3.9   | 5.2   | 13.0  | 5.6   | 14.0  |
| 24                                                                                                                                                   |      |       |       |       |      |                                              | 4.7   | 3.9   | 4.8   | 11.0  | 5.8   | 14.0  |
| 25                                                                                                                                                   |      |       |       |       |      |                                              | 4.4   | 3.9   | 4.5   | 10.0  | 17.0  | 13.0  |
| 26                                                                                                                                                   |      |       |       |       |      |                                              | 3.7   | 4.0   | 4.0   | 9.7   | 26.0  | 267.0 |
| 27                                                                                                                                                   |      |       |       |       |      |                                              | 3.4   | 4.0   | 3.9   | 8.7   | 17.0  | 753.0 |
| 28                                                                                                                                                   |      |       |       |       |      |                                              | 12.0  | 3.7   | 6.8   | 8.4   | 13.0  | 229.0 |
| 29                                                                                                                                                   |      |       |       |       |      |                                              | 47.0  | 7.8   | 5.6   | 8.2   | 12.0  | 112.0 |
| 30                                                                                                                                                   |      | ----- |       |       |      |                                              | 10.0  | 5.2   | 19.0  | 7.7   | 10.0  | 75.0  |
| 31                                                                                                                                                   |      | ----- |       | ----- |      | -----                                        | 6.6   | 185.0 | ----- | 7.0   | ----- | 53.0  |
| MEAN                                                                                                                                                 |      |       |       |       |      |                                              | 8.5   | 13.3  | 61.7  | 78.9  | 7.7   | 57.9  |
| INCHES                                                                                                                                               |      |       |       |       |      |                                              | .41   | .64   | 2.87  | 3.79  | .36   | 2.78  |
| NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0015496. RUNOFF FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR.         |      |       |       |       |      |                                              |       |       |       |       |       |       |
| 1965 MEAN DAILY DISCHARGE (cfs)                                                                                                                      |      |       |       |       |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A2 75.02 |       |       |       |       |       |       |
| DAY                                                                                                                                                  | JAN  | FEB   | MAR   | APR   | MAY  | JUNE                                         | JULY  | AUG   | SEPT  | OCT   | NOV   | DEC   |
| 1                                                                                                                                                    | 40.0 | 17.0  | 21.0  | 20.0  | 13.0 | 3.5                                          | 3.9   | 101.0 | 3.4   | 2.8   | 2.0   | 2.0   |
| 2                                                                                                                                                    | 32.0 | 52.0  | 23.0  | 18.0  | 9.0  | 3.4                                          | 3.5   | 198.0 | 3.9   | 2.6   | 2.0   | 2.0   |
| 3                                                                                                                                                    | 26.0 | 48.0  | 62.0  | 16.0  | 7.0  | 3.4                                          | 3.4   | 55.0  | 3.4   | 2.4   | 2.0   | 2.2   |
| 4                                                                                                                                                    | 22.0 | 32.0  | 44.0  | 14.0  | 6.0  | 3.2                                          | 3.5   | 24.0  | 3.4   | 2.3   | 1.9   | 2.0   |
| 5                                                                                                                                                    | 18.0 | 26.0  | 152.0 | 13.0  | 5.0  | 2.9                                          | 5.1   | 13.0  | 3.4   | 2.3   | 1.9   | 2.0   |
| 6                                                                                                                                                    | 17.0 | 25.0  | 67.0  | 26.0  | 5.0  | 2.9                                          | 3.7   | 9.0   | 3.2   | 2.3   | 1.8   | 1.9   |
| 7                                                                                                                                                    | 14.0 | 50.0  | 44.0  | 33.0  | 4.7  | 2.8                                          | 3.2   | 7.6   | 3.2   | 5.1   | 1.8   | 1.9   |
| 8                                                                                                                                                    | 14.0 | 106.0 | 32.0  | 27.0  | 4.5  | 2.9                                          | 3.9   | 6.4   | 3.0   | 4.2   | 1.8   | 1.9   |
| 9                                                                                                                                                    | 13.0 | 62.0  | 26.0  | 23.0  | 4.5  | 3.2                                          | 3.4   | 5.8   | 2.9   | 2.8   | 1.9   | 1.9   |
| 10                                                                                                                                                   | 13.0 | 41.0  | 21.0  | 18.0  | 3.8  | 2.9                                          | 3.2   | 5.3   | 2.9   | 2.6   | 1.9   | 1.9   |
| 11                                                                                                                                                   | 14.0 | 39.0  | 17.0  | 16.0  | 3.8  | 11.0                                         | 78.0  | 5.3   | 12.0  | 2.6   | 1.9   | 1.9   |
| 12                                                                                                                                                   | 13.0 | 39.0  | 15.0  | 13.0  | 3.8  | 53.0                                         | 60.0  | 4.4   | 20.0  | 2.6   | 1.9   | 1.9   |
| 13                                                                                                                                                   | 12.0 | 80.0  | 13.0  | 12.0  | 3.8  | 17.0                                         | 30.0  | 4.0   | 5.3   | 2.6   | 2.0   | 2.3   |
| 14                                                                                                                                                   | 11.0 | 174.0 | 12.0  | 12.0  | 3.4  | 7.4                                          | 16.0  | 3.9   | 4.4   | 2.4   | 1.8   | 2.0   |
| 15                                                                                                                                                   | 10.0 | 244.0 | 12.0  | 10.0  | 3.2  | 29.0                                         | 137.0 | 3.7   | 4.2   | 2.3   | 1.8   | 1.8   |
| 16                                                                                                                                                   | 10.0 | 116.0 | 10.0  | 9.8   | 3.2  | 365.0                                        | 292.0 | 3.5   | 3.5   | 2.3   | 1.8   | 1.8   |
| 17                                                                                                                                                   | 10.0 | 79.0  | 15.0  | 8.9   | 3.4  | 179.0                                        | 60.0  | 3.5   | 13.0  | 2.3   | 1.8   | 1.8   |
| 18                                                                                                                                                   | 10.0 | 58.0  | 79.0  | 8.3   | 3.4  | 73.0                                         | 29.0  | 3.4   | 8.1   | 2.3   | 1.9   | 1.8   |
| 19                                                                                                                                                   | 10.0 | 42.0  | 49.0  | 7.8   | 3.4  | 27.0                                         | 21.0  | 3.2   | 4.6   | 2.3   | 1.9   | 1.8   |
| 20                                                                                                                                                   | 10.0 | 31.0  | 56.0  | 7.5   | 3.2  | 16.0                                         | 23.0  | 4.6   | 3.9   | 2.3   | 1.9   | 1.8   |
| 21                                                                                                                                                   | 13.0 | 26.0  | 51.0  | 7.0   | 3.0  | 10.0                                         | 12.0  | 3.0   | 3.7   | 2.3   | 1.9   | 1.8   |
| 22                                                                                                                                                   | 20.0 | 23.0  | 36.0  | 6.8   | 3.0  | 7.8                                          | 8.8   | 4.1   | 3.5   | 2.2   | 2.8   | 1.8   |
| 23                                                                                                                                                   | 35.0 | 19.0  | 33.0  | 6.5   | 3.0  | 6.4                                          | 7.4   | 4.2   | 3.2   | 2.2   | 2.2   | 1.8   |
| 24                                                                                                                                                   | 45.0 | 17.0  | 44.0  | 6.6   | 3.0  | 5.3                                          | 6.2   | 3.7   | 4.0   | 2.2   | 2.0   | 1.8   |
| 25                                                                                                                                                   | 60.0 | 59.0  | 80.0  | 6.8   | 3.0  | 6.9                                          | 5.3   | 3.0   | 5.1   | 2.0   | 1.9   | 1.9   |
| 26                                                                                                                                                   | 40.0 | 45.0  | 154.0 | 7.8   | 3.0  | 5.8                                          | 4.9   | 9.0   | 3.2   | 2.0   | 1.9   | 1.9   |
| 27                                                                                                                                                   | 30.0 | 31.0  | 78.0  | 9.0   | 23.0 | 5.1                                          | 4.9   | 4.8   | 3.0   | 2.0   | 1.8   | 1.8   |
| 28                                                                                                                                                   | 22.0 | 25.0  | 48.0  | 50.0  | 23.0 | 4.4                                          | 19.0  | 4.0   | 3.0   | 2.2   | 1.8   | 1.8   |
| 29                                                                                                                                                   | 18.0 | ----- | 36.0  | 30.0  | 5.1  | 4.4                                          | 25.0  | 4.9   | 2.9   | 2.2   | 1.8   | 1.8   |
| 30                                                                                                                                                   | 17.0 | ----- | 32.0  | 20.0  | 4.0  | 3.9                                          | 36.0  | 3.5   | 2.8   | 2.0   | 2.0   | 1.8   |
| 31                                                                                                                                                   | 17.0 | ----- | 25.0  | ----- | 3.9  | -----                                        | 15.0  | 3.4   | ----- | 2.0   | ----- | 1.8   |
| MEAN                                                                                                                                                 | 20.5 | 57.4  | 44.7  | 15.5  | 5.6  | 29.0                                         | 29.9  | 16.5  | 4.9   | 2.5   | 1.9   | 1.9   |
| INCHES                                                                                                                                               | .98  | 2.49  | 2.15  | .72   | .27  | 1.34                                         | 1.44  | .79   | .23   | .12   | .09   | .09   |
| NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0015496. RUNOFF FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE GOOD TO FAIR. |      |       |       |       |      |                                              |       |       |       |       |       |       |

| 1964 SELECTED RUNOFF EVENT                                                                                                                                                                      |                   |                 | AHOSKIE, NORTH CAROLINA |                             |                   |               | WATERSHED W-A2 |             | 75.02      |               |        |       |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|-------------------------|-----------------------------|-------------------|---------------|----------------|-------------|------------|---------------|--------|-------|-------|
| ANTECEDENT CONDITIONS                                                                                                                                                                           |                   |                 | RAINFALL                |                             |                   |               | RUNOFF         |             |            |               |        |       |       |
| DATE MO-DAY                                                                                                                                                                                     | RAINFALL (inches) | RUNOFF (inches) | DATE MO-DAY             | TIME OF DAY                 | INTENSITY (in/hr) | ACC. (inches) | DATE MO-DAY    | TIME OF DAY | RATE (cfs) | ACC. (inches) |        |       |       |
| 10-4                                                                                                                                                                                            | .00               | 2/.0052         | 10-4                    | Event of October 4-11, 1964 |                   |               | 10-4           | 0700        | 26.0       | .0000         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 4 RG AVG 1/                 |                   |               |                |             |            |               |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 0630                        | .00               | .00           |                |             |            |               | 1300   | 34.0  | .0116 |
|                                                                                                                                                                                                 |                   |                 |                         | 1445                        | .04               | .36           |                |             |            |               | 1530   | 47.0  | .0182 |
|                                                                                                                                                                                                 |                   |                 |                         | 1600                        | .41               | .86           |                |             |            |               | 1800   | 220.0 | .0397 |
|                                                                                                                                                                                                 |                   |                 |                         | 1730                        | .20               | 1.16          |                |             |            |               | 2230   | 485.0 | .1421 |
|                                                                                                                                                                                                 |                   |                 |                         | 1830                        | .08               | 1.23          |                |             |            |               |        |       |       |
|                                                                                                                                                                                                 |                   |                 | 10-5                    | 2115                        | .14               | 1.61          | 10-5           | 0115        | 554.0      | .2344         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 0700                        | .05               | 2.14          |                | 0400        | 510.0      | .3288         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 1130                        | .31               | 3.51          |                | 0700        | 480.0      | .4247         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 1300                        | .26               | 3.90          |                | 0830        | 517.0      | .4730         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 1500                        | .17               | 4.25          |                | 0930        | 660.0      | .5110         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         |                             |                   |               |                | 1145        | 1070.0     | .6366         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         |                             |                   |               |                | 1500        | 1260.0     | .8811         |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         |                             |                   |               |                | 1915        | 1310.0     | 1.2337        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         |                             |                   |               |                | 2200        | 1270.0     | 1.4628        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         |                             |                   |               |                | 10-6        | 0130       | 1070.0        | 1.7272 |       |       |
|                                                                                                                                                                                                 |                   |                 |                         |                             |                   |               |                |             | 0800       | 670.0         | 2.0923 |       |       |
|                                                                                                                                                                                                 |                   |                 | 10-7                    | 1630                        |                   |               | 10-7           | 1630        | 388.0      | 2.3826        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 0200                        |                   |               |                | 0200        | 225.0      | 2.5706        |        |       |       |
|                                                                                                                                                                                                 |                   |                 | 10-8                    | 1800                        |                   |               | 10-8           | 1800        | 114.0      | 2.7457        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 1130                        |                   |               |                | 1130        | 72.0       | 2.8508        |        |       |       |
|                                                                                                                                                                                                 |                   |                 | 10-9                    | 1330                        |                   |               | 10-9           | 1330        | 78.0       | 2.8605        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 2400                        |                   |               |                | 2400        | 59.0       | 2.9069        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 2400                        |                   |               |                | 2400        | 37.0       | 2.9813        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 2400                        |                   |               |                | 2400        | 24.5       | 3.0289        |        |       |       |
|                                                                                                                                                                                                 |                   |                 |                         | 2400                        |                   |               |                | 2400        | 17.7       | 3.0616        |        |       |       |
| Watershed conditions:<br>Approximate land use:<br>75% in woodland<br>22% in row crops<br>2% in pasture<br>1% in misc. (roads and homesites)                                                     |                   |                 |                         |                             |                   |               |                |             |            |               |        |       |       |
| NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00006457. 1/ PRECIPITATION IS ARITHMETIC AVERAGE OF 4 RAIN GAGES.<br>NO. 1, 2, T-2, & T-3. 2/ RUNOFF PRIOR TO 0700 ON 10-4-64. 3/ NORMAL BASE FLOW. |                   |                 |                         |                             |                   |               |                |             |            |               |        |       |       |

| 1965 SELECTED RUNOFF EVENT                                                                                                                                                                     |                   |                 | AHOSKIE, NORTH CAROLINA |                           |                   |               | WATERSHED W-A2 |             | 75.02      |               |      |      |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|-------------------------|---------------------------|-------------------|---------------|----------------|-------------|------------|---------------|------|------|-------|
| ANTECEDENT CONDITIONS                                                                                                                                                                          |                   |                 | RAINFALL                |                           |                   |               | RUNOFF         |             |            |               |      |      |       |
| DATE MO-DAY                                                                                                                                                                                    | RAINFALL (inches) | RUNOFF (inches) | DATE MO-DAY             | TIME OF DAY               | INTENSITY (in/hr) | ACC. (inches) | DATE MO-DAY    | TIME OF DAY | RATE (cfs) | ACC. (inches) |      |      |       |
| 6-15                                                                                                                                                                                           | .00               | 5/.0029         | 6-15                    | Event of June 15-21, 1965 |                   |               | 6-15           | 0800        | 5.5        | .0000         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 4 RG AVG 4/               |                   |               |                |             |            |               |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 0730                      | .00               | .00           |                |             |            |               | 1000 | 8.8  | .0009 |
|                                                                                                                                                                                                |                   |                 |                         | 0900                      | .27               | .40           |                |             |            |               | 1200 | 40.0 | .0041 |
|                                                                                                                                                                                                |                   |                 |                         | 1200                      | .09               | .68           |                |             |            |               | 1400 | 56.0 | .0103 |
|                                                                                                                                                                                                |                   |                 |                         | 1630                      | .00               | .68           |                |             |            |               | 1530 | 50.3 | .0154 |
|                                                                                                                                                                                                |                   |                 |                         | 2300                      | .04               | .92           |                |             |            |               |      |      |       |
|                                                                                                                                                                                                |                   |                 | 6-16                    | 0200                      | .09               | 1.20          | 6-16           | 1945        | 33.5       | .0269         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 0400                      | .17               | 1.54          |                | 2100        | 42.0       | .0300         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 0630                      | .15               | 1.92          |                | 2330        | 71.0       | .0391         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 0730                      | .27               | 2.18          |                | 0100        | 72.0       | .0460         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 1030                      | .07               | 2.41          |                | 0330        | 97.0       | .0596         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         |                           |                   |               |                | 0530        | 225.0      | .0804         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         |                           |                   |               |                | 0800        | 435.0      | .1337         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         |                           |                   |               |                | 0930        | 620.0      | .1848         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         |                           |                   |               |                | 1045        | 670.0      | .2369         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         |                           |                   |               |                | 1300        | 605.0      | .3295         |      |      |       |
|                                                                                                                                                                                                |                   |                 | 6-17                    | 1930                      |                   |               | 6-17           | 1930        | 370.0      | .5341         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 0215                      |                   |               |                | 0215        | 225.0      | .6637         |      |      |       |
|                                                                                                                                                                                                |                   |                 | 6-18                    | 1200                      |                   |               | 6-18           | 1200        | 130.0      | .7755         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 2400                      |                   |               |                | 2400        | 81.0       | .8572         |      |      |       |
|                                                                                                                                                                                                |                   |                 | 6-19                    | 2400                      |                   |               | 6-19           | 2400        | 59.0       | .9114         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 2400                      |                   |               |                | 2400        | 37.0       | .9486         |      |      |       |
|                                                                                                                                                                                                |                   |                 | 6-20                    | 2400                      |                   |               | 6-20           | 2400        | 18.7       | .9918         |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 2400                      |                   |               |                | 2400        | 11.5       | 1.0152        |      |      |       |
|                                                                                                                                                                                                |                   |                 | 6-21                    | 2400                      |                   |               | 6-21           | 2400        | 8.0        | 1.0303        |      |      |       |
|                                                                                                                                                                                                |                   |                 |                         | 2400                      |                   |               |                | 2400        | 8.0        | 1.0303        |      |      |       |
| Watershed conditions:<br>Approximate land use:<br>75% woodland<br>22% in row crops<br>2% in pasture<br>1% misc. (roads and homesites)                                                          |                   |                 |                         |                           |                   |               |                |             |            |               |      |      |       |
| NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00006457. 4/ PRECIPITATION IS ARITHMETIC AVERAGE OF 4 RAIN GAGES.<br>NO. 1, 2, T-2 & T-3. 5/ RUNOFF PRIOR TO 0800 ON 6-15-65. 6/ NORMAL BASE FLOW. |                   |                 |                         |                           |                   |               |                |             |            |               |      |      |       |





AHOSKIE, NORTH CAROLINA WATERSHED W-A3

LOCATION: Northampton County, North Carolina, approximately 3 miles southeast of Rich Square; Chowan River Basin.

AREA: 2,368 acres (3.70 sq. miles)

SLOPES: 100% of area in 0-2% class

SOILS: Derived from moderately fine textured sediments.

| Type                                | Percent of area | Topsoil          |                                   |                 | Subsoil                           |              | Substratum          |              | Internal drainage |
|-------------------------------------|-----------------|------------------|-----------------------------------|-----------------|-----------------------------------|--------------|---------------------|--------------|-------------------|
|                                     |                 | Avg. depth (in.) | Structure                         | Permeability    | Structure                         | Permeability | Avg. depth to (in.) | Permeability |                   |
| Coxville fine sandy loam, silt loam | 70              | 8                | Weak fine granular                | Moderate        | Moderate medium subangular blocky | Slow         | 38                  | Slow         | Slow              |
| Lenoir fine sandy loam, silt loam   | 20              | 7                | Weak fine granular                | Moderate        | Moderate medium angular blocky    | Slow         | 36                  | Slow         | Slow to very slow |
| Chastain clay loam                  | 4               | 9                | Moderate medium subangular blocky | Moderately slow | Moderate medium angular blocky    | Slow         | 60                  | Slow         | Slow to very slow |
| Craven fine sandy loam              | 2               | 12               | Weak fine granular                | Moderate        | Moderate medium subangular blocky | Slow         | 42                  | Slow         | Medium            |
| Marlboro fine sandy loam            | 2               | 9                | Weak fine granular                | Moderate        | Moderate medium subangular blocky | Moderate     | 32                  | Moderate     | Medium            |
| Caroline fine sandy loam            | 2               | 12               | Weak fine granular                | Moderate        | Moderate medium angular blocky    | Slow         | 31                  | Slow         | Medium            |

|                 |                 |    |   |
|-----------------|-----------------|----|---|
| <u>EROSION:</u> | Erosion class   | 1  | 2 |
|                 | Percent of area | 99 | 1 |

|                         |                 |   |    |     |    |
|-------------------------|-----------------|---|----|-----|----|
| <u>LAND CAPABILITY:</u> | Class           | I | II | III | IV |
|                         | Percent of area | 2 | 4  | 90  | 4  |

GEOLOGY: The watershed is located in the Southern Coastal Plain Land Resource Area and is underlain by sedimentary formations that thicken to the east and dip approximately 15 ft. to 30 ft. per mile in a southeasterly direction. Clay, sand, and gravel surficial deposits of Quaternary age vary in thickness from 10 ft. to 40 ft. and overlay late Miocene Yorktown formation sediments throughout the watershed. The Yorktown formation varies from 30 ft. to 75 ft. in thickness and is composed of locally lenticular blue-gray clays, sands, marl, and shell beds. Underlying the Yorktown is the Beaufort formation of Paleocene age. This formation is composed of beds of glauconitic sand and calcareous clay from 40 ft. to 60 ft. thick, dipping to the southeast. The Beaufort lies directly on Upper Cretaceous sediments, which also dip to the southeast. The surface phreatic aquifer, the semi-confined aquifers, and the below-lying artesian aquifers are sources of groundwater in the area. Groundwater moves laterally in the surficial aquifer with minor amounts being lost to the under-lying artesian systems. The phreatic water discharges as effluent seepage into stream channels or moves laterally from the area as subsurface alluvial flow. The major recharge areas for the artesian aquifers (Yorktown, Beaufort, and Upper Cretaceous) lie west of the watershed. Source of data: North Carolina Dept. of Conservation and Development, Div. of Mineral Resources, Bulletins 51 and 73; also information from ARS, SWC drilling in the watershed area.

SURFACE DRAINAGE: Good; length of principal waterway approximately 1.60 miles. All major channels excavated prior to July 1964 and maintained continually for flood prevention and drainage.

CHARACTER OF FLOW: Spring-fed, intermittent flow, continuous.

INSTRUMENTATION: Runoff: Water-stage recorder on channel rated periodically by U. S. Geological Survey. Precipitation: One weighing-type recording rain gage with 24-hour time scale and one tipping-bucket gage.

WATERSHED CONDITIONS: Woodland, 88%; row crops 10%; homesites, pasture, and roads 2%.

GENERALLY REPRESENTS: Woodland and mixed row crops on coastal plain soils with extensive system of excavated channels for drainage and flood prevention. Applicable to areas of the Southern Coastal Plain (P-133) in the Carolinas and Virginia where channel improvement works have been installed.

Note: For map of watershed see page 75.1-8.

| 1/<br>MONTHLY PRECIPITATION AND RUNOFF (inches) |       |      |      |      |      | 2/<br>AHOSKIE, NORTH CAROLINA WATERSHED W-A3<br>AREA—2,368 ACRES (3.70 SQ. MILES) |      |      |       |      |      | 75.03 |      |        |
|-------------------------------------------------|-------|------|------|------|------|-----------------------------------------------------------------------------------|------|------|-------|------|------|-------|------|--------|
| YEAR                                            | MONTH | JAN  | FEB  | MAR  | APR  | MAY                                                                               | JUNE | JULY | AUG   | SEPT | OCT  | NOV   | DEC  | ANNUAL |
| 1964                                            | P     |      |      |      |      |                                                                                   |      | 7.43 | 14.03 | 7.24 | 6.26 | 1.57  | 4.65 |        |
|                                                 | Q     |      |      |      |      |                                                                                   |      | .13  | .86   | 4.39 | 3.73 | .12   | 3.06 |        |
| 1965                                            | P     | 1.99 | 2.75 | 3.37 | 2.41 | 2.10                                                                              | 7.09 | 5.39 | 4.48  | 3.27 | 1.00 | .80   | .52  | 35.17  |
|                                                 | Q     | 1.07 | 2.47 | 1.96 | .41  | .04                                                                               | 1.40 | .03  | .86   | .02  | .01  | .00   | .00  | 8.27   |
| MEAN P 4/<br>56 YR                              |       | 3.50 | 3.67 | 3.69 | 3.31 | 3.47                                                                              | 4.88 | 5.75 | 4.56  | 4.02 | 2.87 | 2.79  | 3.33 | 45.84  |

| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS |                   |      |                                           |        |         |        |         |        |          |        |       |        |        |        |        |        |
|-----------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|--------|---------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                  | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |        |         |        |          |        |       |        |        |        |        |        |
|                                                                                                                       |                   |      | 1 HOUR                                    |        | 2 HOURS |        | 6 HOURS |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                       | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME | DATE    | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                  | 6-16              | .04  | 6-16                                      | .04    | 6-16    | .08    | 6-16    | .23    | 6-16     | .41    | 6-16  | .69    | 6-16   | 1.00   | 2-11   | 1.42   |

| MAXIMUMS FOR PERIOD OF RECORD |              |     |              |     |              |     |              |     |              |      |              |      |              |      |              |      |
|-------------------------------|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|------|--------------|------|--------------|------|--------------|------|
| 19 64 TO<br>19 65             | 10-5<br>1964 | .12 | 10-5<br>1964 | .12 | 10-5<br>1964 | .24 | 10-5<br>1964 | .67 | 10-5<br>1964 | 1.24 | 10-5<br>1964 | 1.88 | 10-4<br>1964 | 2.57 | 10-4<br>1964 | 3.49 |

Notes: Watershed conditions: Woodland, 88%; row crops 10%; homesites, pasture, and roads 2%. 1/ Precipitation Thiessen weighted using 2 gages. 2/ Runoff data furnished by U.S. Geological Survey. 3/ STA AVG omitted since records after complete channel excavation only began July 1, 1964. 4/ Mean P based on 56-yr (1910-65) U.S. Weather Bureau record period at Scotland Neck, N.C. Missing records for Oct., 1920, May 1945, Jan. and May 1949, Jan., Feb., and Mar. 1950, and Nov. 1951 estimated from nearby station.

| 1964 DAILY PRECIPITATION (inches) |     |     |     |     |     | AHOSKIE, NORTH CAROLINA WATERSHED W-A3 |      |       |      |      |      | 75.3 |  |
|-----------------------------------|-----|-----|-----|-----|-----|----------------------------------------|------|-------|------|------|------|------|--|
| DAY                               | JAN | FEB | MAR | APR | MAY | JUNE                                   | JULY | AUG   | SEPT | OCT  | NOV  | DEC  |  |
| 1                                 |     |     |     |     |     |                                        | .00  | .00   | .11  | .19  | .00  | .00  |  |
| 2                                 |     |     |     |     |     |                                        | .00  | .00   | .00  | .49  | .00  | .00  |  |
| 3                                 |     |     |     |     |     |                                        | .00  | 1.51  | .00  | .00  | .00  | .00  |  |
| 4                                 |     |     |     |     |     |                                        | 1.02 | 1.93  | .00  | 1.84 | .00  | .15  |  |
| 5                                 |     |     |     |     |     |                                        | .00  | .00   | .00  | 2.43 | .00  | .19  |  |
| 6                                 |     |     |     |     |     |                                        | .00  | .00   | .00  | .00  | .00  | .00  |  |
| 7                                 |     |     |     |     |     |                                        | .00  | .00   | .00  | .00  | .00  | .00  |  |
| 8                                 |     |     |     |     |     |                                        | .00  | .03   | .00  | .00  | .13  | .00  |  |
| 9                                 |     |     |     |     |     |                                        | 1.78 | .14   | .00  | .00  | .00  | .00  |  |
| 10                                |     |     |     |     |     |                                        | .00  | .00   | .36  | .00  | .00  | .00  |  |
| 11                                |     |     |     |     |     |                                        | .00  | .00   | .31  | .00  | .00  | .00  |  |
| 12                                |     |     |     |     |     |                                        | .37  | .00   | .58  | .00  | .00  | .14  |  |
| 13                                |     |     |     |     |     |                                        | .16  | .00   | 4.53 | .00  | .00  | .00  |  |
| 14                                |     |     |     |     |     |                                        | .00  | .00   | .04  | .00  | .00  | .00  |  |
| 15                                |     |     |     |     |     |                                        | .00  | .00   | .00  | .00  | .00  | .00  |  |
| 16                                |     |     |     |     |     |                                        | .00  | .28   | .00  | .27  | .00  | .00  |  |
| 17                                |     |     |     |     |     |                                        | .38  | .41   | .00  | .78  | .00  | .20  |  |
| 18                                |     |     |     |     |     |                                        | .28  | .00   | .00  | .05  | .00  | .07  |  |
| 19                                |     |     |     |     |     |                                        | .40  | .00   | .00  | .04  | .10  | .00  |  |
| 20                                |     |     |     |     |     |                                        | .23  | .27   | .00  | .17  | .50  | .37  |  |
| 21                                |     |     |     |     |     |                                        | .62  | .00   | .00  | .00  | .00  | .00  |  |
| 22                                |     |     |     |     |     |                                        | .17  | .00   | .00  | .00  | .00  | .00  |  |
| 23                                |     |     |     |     |     |                                        | .56  | .00   | .00  | .00  | .00  | .00  |  |
| 24                                |     |     |     |     |     |                                        | .14  | .00   | .00  | .00  | .00  | .00  |  |
| 25                                |     |     |     |     |     |                                        | .00  | .00   | .00  | .00  | .77  | .10  |  |
| 26                                |     |     |     |     |     |                                        | .00  | .41   | .00  | .00  | .04  | 2.98 |  |
| 27                                |     |     |     |     |     |                                        | .00  | .00   | .00  | .00  | .00  | .45  |  |
| 28                                |     |     |     |     |     |                                        | 1.17 | .00   | .43  | .00  | .00  | .00  |  |
| 29                                |     |     |     |     |     |                                        | .15  | .33   | .11  | .00  | .03  | .00  |  |
| 30                                |     |     |     |     |     |                                        | .00  | .02   | .77  | .00  | .00  | .00  |  |
| 31                                |     |     |     |     |     |                                        | .00  | 8.70  |      | .00  |      | .00  |  |
| TOTAL                             |     |     |     |     |     |                                        | 7.43 | 14.03 | 7.24 | 6.26 | 1.57 | 4.65 |  |
| STA AV                            |     |     |     |     |     |                                        |      |       |      |      |      |      |  |

NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 2 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.

| 1965 DAILY PRECIPITATION (inches) |      |       |      |       |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A3 75.3 |      |      |       |      |       |     |
|-----------------------------------|------|-------|------|-------|------|---------------------------------------------|------|------|-------|------|-------|-----|
| DAY                               | JAN  | FEB   | MAR  | APR   | MAY  | JUNE                                        | JULY | AUG  | SEPT  | OCT  | NOV   | DEC |
| 1                                 | .00  | .00   | .00  | .00   | .00  | .00                                         | .00  | 2.35 | .00   | .00  | .00   | .00 |
| 2                                 | .00  | .09   | .52  | .00   | .00  | .00                                         | .00  | .00  | .17   | .04  | .00   | .00 |
| 3                                 | .00  | .00   | .00  | .00   | .00  | .00                                         | .00  | .00  | .00   | .00  | .00   | .00 |
| 4                                 | .00  | .00   | .32  | .00   | .00  | .00                                         | .84  | .00  | .00   | .00  | .00   | .00 |
| 5                                 | .00  | .00   | .15  | .00   | .00  | .00                                         | .37  | .00  | .00   | .00  | .00   | .00 |
| 6                                 | .00  | .00   | .00  | .44   | .00  | .00                                         | .04  | .00  | .00   | .00  | .00   | .00 |
| 7                                 | .00  | .35   | .00  | .03   | .00  | .00                                         | .31  | .00  | .00   | .96  | .00   | .00 |
| 8                                 | .00  | .04   | .00  | .00   | .00  | .06                                         | .11  | .00  | .00   | .00  | .00   | .00 |
| 9                                 | .00  | .00   | .00  | .00   | .00  | .24                                         | .00  | .00  | .00   | .00  | .00   | .00 |
| 10                                | .13  | .00   | .00  | .00   | .00  | .00                                         | .06  | .48  | .00   | .00  | .00   | .00 |
| 11                                | .00  | .14   | .00  | .00   | .09  | 3.40                                        | 1.03 | .00  | 1.74  | .00  | .00   | .00 |
| 12                                | .00  | .13   | .00  | .00   | .00  | .26                                         | .00  | .00  | .09   | .00  | .00   | .00 |
| 13                                | .00  | .24   | .00  | .00   | .04  | .00                                         | .00  | .00  | .00   | .00  | .16   | .29 |
| 14                                | .00  | 1.26  | .00  | .00   | .00  | .00                                         | .00  | .06  | .13   | .00  | .00   | .00 |
| 15                                | .23  | .04   | .00  | .07   | .00  | 1.17                                        | 1.16 | .00  | .00   | .00  | .00   | .00 |
| 16                                | .24  | .00   | .00  | .03   | .03  | 1.70                                        | .02  | .00  | .04   | .00  | .00   | .00 |
| 17                                | .03  | .00   | .83  | .00   | .03  | .00                                         | .00  | .00  | .06   | .00  | .00   | .00 |
| 18                                | .26  | .00   | .03  | .00   | .00  | .00                                         | .15  | .00  | .00   | .00  | .04   | .00 |
| 19                                | .04  | .00   | .04  | .00   | .00  | .00                                         | .00  | .00  | .00   | .00  | .00   | .00 |
| 20                                | .00  | .00   | .28  | .08   | .00  | .00                                         | .00  | .04  | .00   | .00  | .00   | .00 |
| 21                                | .00  | .00   | .04  | .02   | .00  | .00                                         | .00  | .00  | .00   | .00  | .07   | .00 |
| 22                                | .00  | .00   | .00  | .00   | .00  | .00                                         | .00  | .13  | .00   | .00  | .53   | .00 |
| 23                                | .00  | .00   | .22  | .08   | .00  | .00                                         | .00  | .17  | .00   | .00  | .00   | .00 |
| 24                                | .47  | .00   | .03  | .00   | .00  | .00                                         | .00  | .00  | 1.04  | .00  | .00   | .00 |
| 25                                | .00  | .46   | .77  | .31   | .00  | .00                                         | .00  | .07  | .00   | .00  | .00   | .23 |
| 26                                | .00  | .00   | .04  | .10   | .00  | .00                                         | .11  | 1.01 | .00   | .00  | .00   | .00 |
| 27                                | .00  | .00   | .00  | 1.06  | 1.82 | .00                                         | .38  | .00  | .00   | .00  | .00   | .00 |
| 28                                | .00  | .00   | .00  | .07   | .00  | .00                                         | .74  | .17  | .00   | .00  | .00   | .00 |
| 29                                | .00  | ----- | .10  | .12   | .00  | .26                                         | .07  | .00  | .00   | .00  | .00   | .00 |
| 30                                | .34  | ----- | .00  | .00   | .09  | .00                                         | .00  | .00  | .00   | .00  | .00   | .00 |
| 31                                | .25  | ----- | .00  | ----- | .00  | -----                                       | .00  | .00  | ----- | .00  | ----- | .00 |
| TOTAL                             | 1.99 | 2.75  | 3.37 | 2.41  | 2.10 | 7.09                                        | 5.39 | 4.48 | 3.27  | 1.00 | .80   | .52 |
| STA AV                            |      |       |      |       |      |                                             |      |      |       |      |       |     |

NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 2 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.



| 1964 MEAN DAILY DISCHARGE (cfs) |     |     |     |     |     | AHOSKIE, NORTH CAROLINA WATERSHED W-A3 75.03 |      |       |        |        |      |        |
|---------------------------------|-----|-----|-----|-----|-----|----------------------------------------------|------|-------|--------|--------|------|--------|
| DAY                             | JAN | FEB | MAR | APR | MAY | JUNE                                         | JULY | AUG   | SEPT   | OCT    | NOV  | DEC    |
| 1                               |     |     |     |     |     |                                              | .20  | .10   | 166.00 | 1.10   | .20  | .50    |
| 2                               |     |     |     |     |     |                                              | .20  | .10   | 37.00  | 1.10   | .20  | .40    |
| 3                               |     |     |     |     |     |                                              | .20  | .20   | 19.00  | 2.80   | .20  | .40    |
| 4                               |     |     |     |     |     |                                              | .50  | 9.70  | 10.00  | 16.00  | .20  | .60    |
| 5                               |     |     |     |     |     |                                              | .30  | 5.00  | 5.20   | 170.00 | .20  | .70    |
| 6                               |     |     |     |     |     |                                              | .20  | 1.20  | 2.40   | 80.00  | .20  | 1.00   |
| 7                               |     |     |     |     |     |                                              | .20  | .50   | 1.30   | 32.00  | .20  | .90    |
| 8                               |     |     |     |     |     |                                              | .20  | .30   | .90    | 16.00  | .20  | .60    |
| 9                               |     |     |     |     |     |                                              | 4.60 | .20   | .60    | 10.00  | .20  | .50    |
| 10                              |     |     |     |     |     |                                              | 1.60 | .20   | .50    | 6.30   | .20  | .40    |
| 11                              |     |     |     |     |     |                                              | .30  | .20   | .50    | 3.30   | .20  | .50    |
| 12                              |     |     |     |     |     |                                              | .20  | .10   | .70    | 2.20   | .20  | .50    |
| 13                              |     |     |     |     |     |                                              | .20  | .10   | 69.00  | 1.20   | .20  | .70    |
| 14                              |     |     |     |     |     |                                              | .10  | .10   | 69.00  | .70    | .20  | .60    |
| 15                              |     |     |     |     |     |                                              | .05  | .10   | 26.00  | .70    | .20  | .50    |
| 16                              |     |     |     |     |     |                                              | .05  | .10   | 12.00  | 1.00   | .30  | .50    |
| 17                              |     |     |     |     |     |                                              | .10  | .10   | 7.40   | 6.00   | .30  | .70    |
| 18                              |     |     |     |     |     |                                              | .10  | .10   | 3.70   | 6.50   | .30  | .90    |
| 19                              |     |     |     |     |     |                                              | .20  | .10   | 2.00   | 3.30   | .30  | .70    |
| 20                              |     |     |     |     |     |                                              | .10  | .10   | 1.00   | 2.20   | .50  | 1.40   |
| 21                              |     |     |     |     |     |                                              | .50  | .05   | .70    | 2.20   | .50  | 2.00   |
| 22                              |     |     |     |     |     |                                              | .30  | .05   | .40    | 1.60   | .40  | 1.50   |
| 23                              |     |     |     |     |     |                                              | .20  | .05   | .30    | 1.10   | .30  | 1.20   |
| 24                              |     |     |     |     |     |                                              | .30  | .05   | .20    | .90    | .30  | 1.10   |
| 25                              |     |     |     |     |     |                                              | .20  | .05   | .20    | .70    | .90  | 1.10   |
| 26                              |     |     |     |     |     |                                              | .20  | .10   | .20    | .60    | 1.50 | 36.00  |
| 27                              |     |     |     |     |     |                                              | .10  | .05   | .20    | .40    | 1.00 | 133.00 |
| 28                              |     |     |     |     |     |                                              | .20  | .05   | .20    | .40    | .80  | 53.00  |
| 29                              |     |     |     |     |     |                                              | 1.30 | .05   | .20    | .30    | .70  | 29.00  |
| 30                              |     |     |     |     |     |                                              | .30  | .05   | .40    | .30    | .60  | 20.00  |
| 31                              |     |     |     |     |     |                                              | .20  | 67.00 |        | .20    |      | 14.00  |
| MEAN                            |     |     |     |     |     |                                              | .43  | 2.78  | 14.57  | 11.97  | .39  | 9.84   |
| INCHES                          |     |     |     |     |     |                                              | .13  | .86   | 4.39   | 3.73   | .12  | 3.06   |

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0100514. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR.

| 1965 MEAN DAILY DISCHARGE (cfs) |      |       |       |       |      | AHOSKIE, NORTH CAROLINA WATERSHED W-A3 75.03 |      |       |       |     |       |     |
|---------------------------------|------|-------|-------|-------|------|----------------------------------------------|------|-------|-------|-----|-------|-----|
| DAY                             | JAN  | FEB   | MAR   | APR   | MAY  | JUNE                                         | JULY | AUG   | SEPT  | OCT | NOV   | DEC |
| 1                               | 9.70 | 2.50  | 2.00  | 2.40  | 1.40 | .05                                          | .10  | 20.00 | .05   | .05 | .00   | .00 |
| 2                               | 7.40 | 5.20  | 2.70  | 2.00  | .70  | .00                                          | .10  | 36.00 | .05   | .05 | .00   | .00 |
| 3                               | 5.50 | 6.90  | 8.70  | 1.60  | .40  | .00                                          | .10  | 16.00 | .05   | .05 | .00   | .00 |
| 4                               | 4.00 | 4.40  | 7.40  | 1.30  | .20  | .00                                          | .10  | 6.80  | .05   | .05 | .00   | .00 |
| 5                               | 3.00 | 4.20  | 16.00 | 1.10  | .10  | .00                                          | .20  | 2.30  | .05   | .05 | .00   | .00 |
| 6                               | 2.60 | 3.50  | 10.00 | 2.40  | .10  | .00                                          | .10  | 1.80  | .05   | .05 | .00   | .00 |
| 7                               | 2.00 | 6.70  | 6.40  | 3.50  | .10  | .00                                          | .10  | .40   | .05   | .05 | .00   | .00 |
| 8                               | 1.90 | 14.00 | 4.00  | 2.60  | .05  | .00                                          | .10  | .20   | .05   | .05 | .00   | .00 |
| 9                               | 1.60 | 10.00 | 3.00  | 2.20  | .05  | .05                                          | .10  | .20   | .05   | .00 | .00   | .00 |
| 10                              | 1.80 | 6.70  | 2.40  | 1.60  | .05  | .00                                          | .10  | .20   | .05   | .00 | .00   | .00 |
| 11                              | 1.90 | 6.00  | 1.80  | 1.20  | .05  | 2.80                                         | .20  | .20   | .70   | .00 | .00   | .00 |
| 12                              | 1.60 | 6.20  | 1.40  | 1.10  | .05  | 6.70                                         | .20  | .20   | .05   | .00 | .00   | .00 |
| 13                              | 1.40 | 10.00 | 1.30  | .80   | .05  | 3.90                                         | .10  | .10   | .05   | .00 | .00   | .00 |
| 14                              | 1.30 | 24.00 | 1.10  | .60   | .05  | 1.10                                         | .10  | .10   | .05   | .00 | .00   | .00 |
| 15                              | 1.10 | 41.00 | .90   | .50   | .00  | 3.00                                         | .20  | .10   | .05   | .00 | .00   | .00 |
| 16                              | 1.40 | 24.00 | .80   | .50   | .00  | 61.00                                        | .70  | .10   | .05   | .00 | .00   | .00 |
| 17                              | 1.60 | 17.00 | 1.40  | .40   | .05  | 34.00                                        | .10  | .10   | .05   | .00 | .00   | .00 |
| 18                              | 1.60 | 11.00 | 9.20  | .30   | .00  | 15.00                                        | .05  | .10   | .05   | .00 | .00   | .00 |
| 19                              | 1.50 | 7.90  | 7.40  | .30   | .00  | 6.80                                         | .05  | .10   | .05   | .00 | .00   | .00 |
| 20                              | 1.40 | 5.20  | 8.20  | .30   | .00  | 2.60                                         | .05  | .05   | .05   | .00 | .00   | .00 |
| 21                              | 2.00 | 4.00  | 8.40  | .30   | .00  | .90                                          | .05  | .05   | .05   | .00 | .00   | .00 |
| 22                              | 3.30 | 3.10  | 6.00  | .20   | .00  | .40                                          | .05  | .05   | .05   | .00 | .05   | .00 |
| 23                              | 5.50 | 2.50  | 4.80  | .20   | .00  | .20                                          | .05  | .05   | .05   | .00 | .00   | .00 |
| 24                              | 7.40 | 2.00  | 6.70  | .30   | .00  | .20                                          | .05  | .05   | .10   | .00 | .00   | .00 |
| 25                              | 9.20 | 5.80  | 12.00 | .30   | .00  | .20                                          | .00  | .05   | .05   | .00 | .00   | .00 |
| 26                              | 6.70 | 5.70  | 25.00 | .30   | .00  | .20                                          | .00  | .10   | .05   | .00 | .00   | .00 |
| 27                              | 4.80 | 3.50  | 15.00 | .90   | .50  | .10                                          | .05  | .05   | .05   | .00 | .00   | .00 |
| 28                              | 3.50 | 2.80  | 8.20  | 5.00  | .10  | .10                                          | .10  | .05   | .05   | .00 | .00   | .00 |
| 29                              | 2.60 | ----- | 5.50  | 3.70  | .05  | .10                                          | .05  | .05   | .05   | .00 | .00   | .00 |
| 30                              | 2.80 | ----- | 4.60  | 2.60  | .05  | .10                                          | .05  | .05   | .05   | .00 | .00   | .00 |
| 31                              | 4.20 | ----- | 3.10  | ----- | .00  | -----                                        | .05  | .05   | ----- | .00 | ----- | .00 |
| MEAN                            | 3.43 | 8.78  | 6.30  | 1.35  | .13  | 4.65                                         | .11  | 2.76  | .07   | .01 | .00   | .00 |
| INCHES                          | 1.07 | 2.47  | 1.96  | .41   | .04  | 1.40                                         | .03  | .86   | .02   | .01 | .00   | .00 |

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0100514. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR.

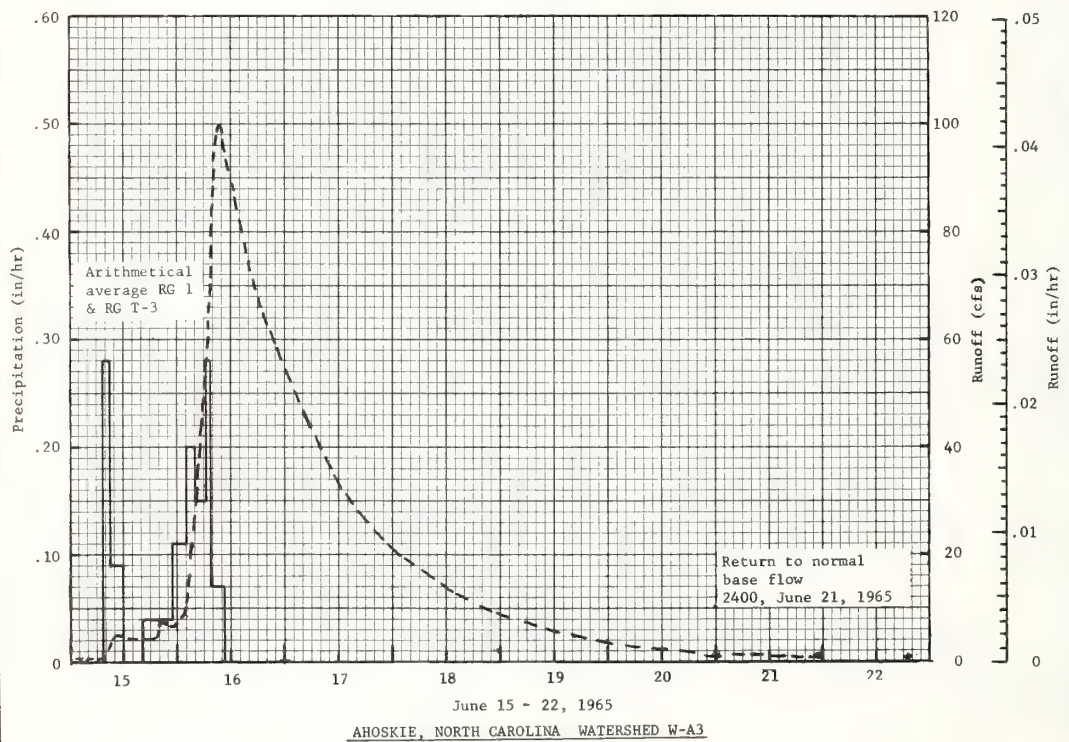
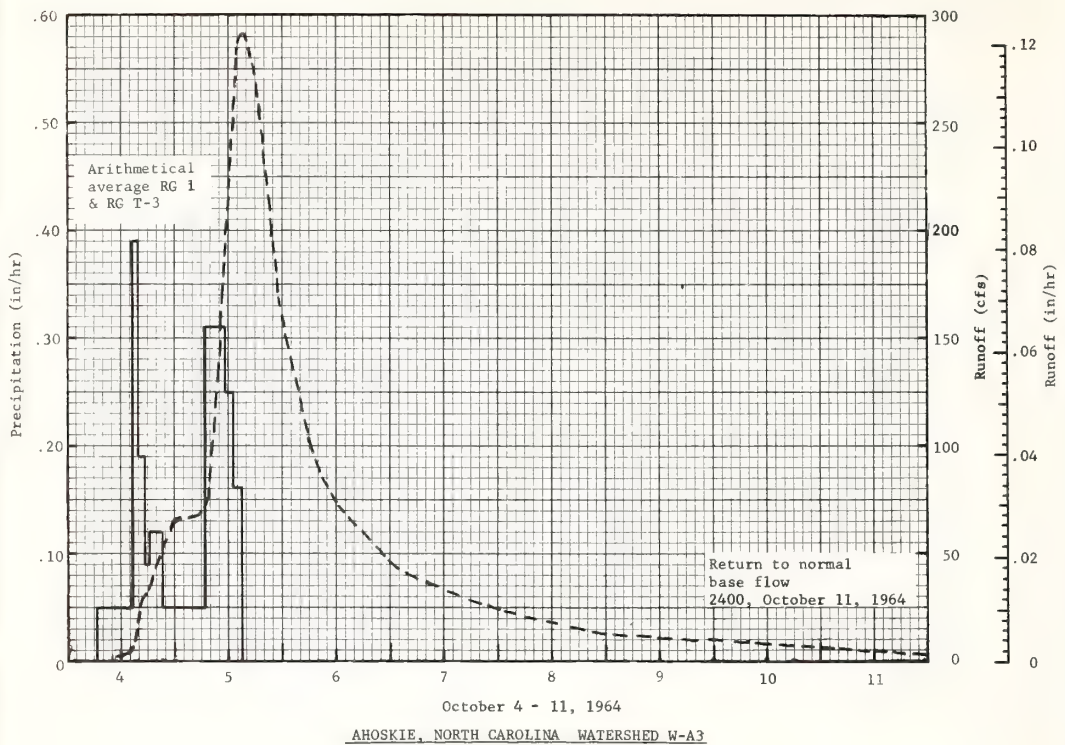
| 1964 SELECTED RUNOFF EVENT |                      |                    | AHOSKIE, NORTH CAROLINA |                             |                      |                  | WATERSHED W-A3 |                | 75.03         |                  |
|----------------------------|----------------------|--------------------|-------------------------|-----------------------------|----------------------|------------------|----------------|----------------|---------------|------------------|
| ANTECEDENT CONDITIONS      |                      |                    | RAINFALL                |                             |                      |                  | RUNOFF         |                |               |                  |
| DATE<br>MO-DAY             | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY          | TIME<br>OF DAY              | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |
| 10-4                       | .00                  | 2/.0111            | 10-4                    | Event of October 4-11, 1964 |                      |                  | 10-4           | 1100           | 2.4           | .0000            |
|                            |                      |                    |                         | 2 RG AVG 1/                 |                      |                  |                |                |               |                  |
|                            |                      |                    |                         | 0630                        | .00                  | .00              |                | 1430           | 4.2           | .0048            |
|                            |                      |                    |                         | 1445                        | .05                  | .38              |                | 1530           | 15.0          | .0088            |
|                            |                      |                    |                         | 1600                        | .39                  | .88              |                | 1700           | 29.0          | .0226            |
|                            |                      |                    |                         | 1730                        | .19                  | 1.16             |                | 1830           | 33.5          | .0423            |
|                            |                      |                    |                         | 1830                        | .09                  | 1.25             |                |                |               |                  |
|                            |                      |                    | 10-5                    | 2115                        | .12                  | 1.58             | 10-5           | 2100           | 50.0          | .0860            |
|                            |                      |                    |                         | 0700                        | .05                  | 2.08             |                | 2400           | 66.0          | .1588            |
|                            |                      |                    |                         | 1130                        | .31                  | 3.48             |                | 0530           | 68.0          | .3132            |
|                            |                      |                    |                         | 1300                        | .25                  | 3.84             |                | 0730           | 76.0          | .3735            |
|                            |                      |                    |                         | 1500                        | .16                  | 4.16             |                | 1000           | 142.0         | .4876            |
|                            |                      |                    |                         |                             |                      |                  |                | 1030           | 170.0         | .5203            |
|                            |                      |                    |                         |                             |                      |                  |                | 1100           | 178.0         | .5567            |
|                            |                      |                    |                         |                             |                      |                  |                | 1330           | 280.0         | .7965            |
|                            |                      |                    |                         |                             |                      |                  |                | 1530           | 292.0         | 1.0360           |
|                            |                      |                    |                         |                             |                      |                  |                | 1800           | 275.0         | 1.3329           |
|                            |                      |                    |                         |                             |                      |                  | 10-6           | 2130           | 200.0         | 1.6810           |
|                            |                      |                    |                         |                             |                      |                  |                | 2300           | 170.0         | 1.7972           |
|                            |                      |                    |                         |                             |                      |                  |                | 2400           | 157.0         | 1.8657           |
|                            |                      |                    |                         |                             |                      |                  |                | 0600           | 102.0         | 2.1911           |
|                            |                      |                    |                         |                             |                      |                  |                | 1300           | 71.0          | 2.4447           |
|                            |                      |                    |                         |                             |                      |                  |                |                |               |                  |
|                            |                      |                    |                         |                             |                      | 10-7             | 2400           | 47.0           | 2.7165        |                  |
|                            |                      |                    |                         |                             |                      |                  | 10-8           | 2400           | 24.5          | 3.0758           |
|                            |                      |                    |                         |                             |                      |                  |                | 2400           | 12.5          | 3.2618           |
|                            |                      |                    |                         |                             |                      |                  |                | 1200           | 6.6           | 3.4058           |
|                            |                      |                    | 2400                    | 3/ 2.6                      | 3.4751               |                  |                |                |               |                  |

Watershed conditions:  
Approximate land use:  
88% in woodland  
10% in row crops  
2% in misc. (homesites,  
pasture, and roads)

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00041881. 1/ PRECIPITATION IS ARITHMETIC AVERAGE OF RG 1 AND T-3.  
2/ RUNOFF PRIOR TO 1100 ON 10-4-64. 3/ NORMAL BASE FLOW.

| 1965 SELECTED RUNOFF EVENT                                                                                                              |                      |                    | AHOSKIE, NORTH CAROLINA |                           |                      |                  | WATERSHED W-A3 |                | 75.03         |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|-------------------------|---------------------------|----------------------|------------------|----------------|----------------|---------------|------------------|
| ANTECEDENT CONDITIONS                                                                                                                   |                      |                    | RAINFALL                |                           |                      |                  | RUNOFF         |                |               |                  |
| DATE<br>MO-DAY                                                                                                                          | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY          | TIME<br>OF DAY            | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |
| 6-15                                                                                                                                    | .00                  | 5/.0003            | 6-15                    | Event of June 15-21, 1965 |                      |                  | 6-15           | 0100           | 0.6           | .0000            |
|                                                                                                                                         |                      |                    |                         | 2 RG AVG 4/               |                      |                  |                |                |               |                  |
|                                                                                                                                         |                      |                    |                         | 0730                      | .00                  | .00              |                | 0745           | 0.6           | .0017            |
|                                                                                                                                         |                      |                    |                         | 0900                      | .28                  | .42              |                | 1000           | 5.1           | .0044            |
|                                                                                                                                         |                      |                    |                         | 1200                      | .09                  | .70              |                | 1300           | 4.2           | .0103            |
|                                                                                                                                         |                      |                    |                         | 1630                      | .00                  | .70              |                | 1930           | 4.1           | .0216            |
|                                                                                                                                         |                      |                    |                         | 2300                      | .04                  | .95              |                |                |               |                  |
|                                                                                                                                         |                      |                    | 6-16                    | 0200                      | .11                  | 1.28             | 6-16           | 2000           | 7.8           | .0228            |
|                                                                                                                                         |                      |                    |                         | 0400                      | .20                  | 1.68             |                | 2300           | 6.6           | .0318            |
|                                                                                                                                         |                      |                    |                         | 0630                      | .15                  | 2.05             |                | 0200           | 11.0          | .0429            |
|                                                                                                                                         |                      |                    |                         | 0730                      | .28                  | 2.32             |                | 0400           | 29.0          | .0596            |
|                                                                                                                                         |                      |                    |                         | 1030                      | .07                  | 2.52             |                | 0600           | 52.5          | .0938            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 0700           | 61.0          | .1175            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 0800           | 86.0          | .1464            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 0915           | 100.0         | .1928            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 1200           | 89.0          | .3016            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 1600           | 74.0          | .4381            |
|                                                                                                                                         |                      |                    | 6-17                    |                           |                      |                  | 6-17           | 2400           | 56.0          | .6559            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 1200           | 33.0          | .8796            |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 2400           | 21.0          | 1.0153           |
|                                                                                                                                         |                      |                    |                         | 6-18                      |                      |                  |                | 1200           | 14.0          | 1.1032           |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 2400           | 8.4           | 1.1595           |
|                                                                                                                                         |                      |                    | 6-19                    |                           |                      |                  | 6-19           | 1200           | 6.0           | 1.1957           |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 2400           | 3.4           | 1.2193           |
|                                                                                                                                         |                      |                    |                         | 6-20                      |                      |                  |                | 1200           | 2.2           | 1.2334           |
|                                                                                                                                         |                      |                    |                         |                           |                      |                  |                | 2400           | 1.1           | 1.2417           |
|                                                                                                                                         |                      |                    | 6-21                    |                           |                      |                  | 6-21           | 2400           | 6/ .5         | 1.2497           |
| Watershed conditions:<br>Approximate land use:<br>88% in woodland<br>10% in row crops<br>2% in misc. (homesites,<br>pasture, and roads) |                      |                    |                         |                           |                      |                  |                |                |               |                  |

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00041881. 4/ PRECIPITATION IS ARITHMETIC AVERAGE OF RG 1 AND T-3.  
5/ RUNOFF PRIOR TO 0100 ON 6-15-65. 6/ NORMAL BASE FLOW.





AHOSKIE, NORTH CAROLINA WATERSHED W-A4

LOCATION: Hertford County, North Carolina; approximately 2 miles southwest of Ahoskie; Chowan River Basin.

AREA: 1,664 acres (2.60 sq. miles)

|                |                 |     |     |
|----------------|-----------------|-----|-----|
| <u>SLOPES:</u> | Slope-Percent   | 0-2 | 2-6 |
|                | Percent of area | 89  | 11  |

SOILS: Derived from moderately fine textured sediments.

| Type                                | Percent of area | Topsoil          |                      |              | Subsoil                           |                 | Substratum          |                 | Internal drainage |
|-------------------------------------|-----------------|------------------|----------------------|--------------|-----------------------------------|-----------------|---------------------|-----------------|-------------------|
|                                     |                 | Avg. depth (in.) | Structure            | Permeability | Structure                         | Permeability    | Avg. depth to (in.) | Permeability    |                   |
| Coxville fine sandy loam, silt loam | 36              | 8                | Weak fine granular   | Moderate     | Moderate medium subangular blocky | Slow            | 38                  | Slow            | Slow              |
| Craven fine sandy loam              | 25              | 12               | Weak fine granular   | Moderate     | Moderate medium subangular blocky | Slow            | 42                  | Slow            | Medium            |
| Lenoir fine sandy loam, silt loam   | 18              | 7                | Weak fine granular   | Moderate     | Moderate medium angular blocky    | Slow            | 36                  | Slow            | Slow to very slow |
| Duplin fine sandy loam              | 4               | 8                | Weak fine granular   | Moderate     | Moderate medium subangular blocky | Moderate        | 34                  | Moderate        | Medium            |
| Dunbar fine sandy loam              | 4               | 15               | Weak fine granular   | Moderate     | Moderate medium subangular blocky | Moderate        | 30                  | Moderately slow | Slow              |
| Caroline fine sandy loam            | 4               | 12               | Weak fine granular   | Moderate     | Moderate medium angular blocky    | Slow            | 31                  | Slow            | Medium            |
| Bibb fine sandy loam                | 4               | 28               | Weak medium granular | Moderate     | Structureless                     | Moderately slow | 40                  | Slow            | Slow              |
| Marlboro fine sandy loam            | 3               | 9                | Weak fine granular   | Moderate     | Moderate medium subangular blocky | Moderate        | 32                  | Moderate        | Medium            |
| Norfolk loamy fine sand, sandy loam | 2               | 12               | Weak fine granular   | Moderate     | Weak medium subangular blocky     | Moderate        | 36                  | Moderate        | Medium            |

|                 |                 |    |   |
|-----------------|-----------------|----|---|
| <u>EROSION:</u> | Erosion class   | 1  | 2 |
|                 | Percent of area | 92 | 8 |

|                         |                 |   |    |     |    |   |
|-------------------------|-----------------|---|----|-----|----|---|
| <u>LAND CAPABILITY:</u> | Class           | I | II | III | IV | V |
|                         | Percent of area | 3 | 40 | 53  | 0  | 4 |

GEOLOGY: The watershed is located in the Southern Coastal Plain Land Resource Area and is underlain by sedimentary formations that thicken to the east and dip approximately 15 ft. to 30 ft. per mile in a southeasterly direction. Clay, sand, and gravel surficial deposits of Quaternary age vary in thickness from 10 ft. to 40 ft. and overlay late Miocene Yorktown formation sediments throughout the watershed. The Yorktown formation varies from 30 ft. to 75 ft. in thickness and is composed of locally lenticular blue-gray clays, sands, marl, and shell beds. Underlying the Yorktown is the Beaufort formation of Paleocene age. This formation is composed of beds of glauconitic sand and calcareous clay from 40 ft. to 60 ft. thick, dipping to the southeast. The Beaufort lies directly on Upper Cretaceous sediments, which also dip to the southeast. The surface phreatic aquifer, the semi-confined aquifers, and the below-lying artesian aquifers are sources of groundwater in the area. Groundwater moves laterally in the surficial aquifer with minor amounts being lost to the under-lying artesian systems. The phreatic water discharges as effluent seepage into stream channels or moves laterally from the area as subsurface alluvial flow. The major recharge areas for the artesian aquifers (Yorktown, Beaufort, and Upper Cretaceous) lie west of the watershed. Source of Data: North Carolina Dept. of Conservation and Development, Div. of Mineral Resources, Bulletins 51 and 73; also information from ARS, SWC drilling in the watershed area.

SURFACE DRAINAGE: Good; length of principle waterway approximately 1.48 miles. All major channels excavated prior to January 1963 and maintained continually for flood prevention and drainage.

CHARACTER OF FLOW: Perennial flow, continuous.

INSTRUMENTATION: Runoff; Water-stage recorder on channel section rated periodically by US Geological Survey. Precipitation: One weighing-type recording rain gages with 24-hour time scale and one tipping-bucket gage.

WATERSHED CONDITIONS: Woodland, 60%; row crops, 39%; homesites, pasture, and roads, 1%.

GENERALLY REPRESENTS: Mixed row crops and woodland on coastal plain soils with extensive system of excavated channels for drainage and flood prevention. Applicable to areas of the Southern Coastal Plain (P-133) in the Carolinas and Virginia where channel improvement works have been installed.

Note: For map of watershed see page 75.1-8.



| 1/<br>MONTHLY PRECIPITATION AND RUNOFF (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |      |                                           |        |         |                                        | 2/<br>AHOSKIE, NORTH CAROLINA WATERSHED W-A3<br>AREA—1,664 ACRES (2.60 SQ. MILES) |        |          |        |       |        |        | 75.04  |        |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|-------------------------------------------|--------|---------|----------------------------------------|-----------------------------------------------------------------------------------|--------|----------|--------|-------|--------|--------|--------|--------|--------|
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MONTH             | JAN  | FEB                                       | MAR    | APR     | MAY                                    | JUNE                                                                              | JULY   | AUG      | SEPT   | OCT   | NOV    | DEC    | ANNUAL |        |        |
| 1964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | P                 |      |                                           |        |         |                                        |                                                                                   | 6.52   | 7.06     | 4.73   | 6.71  | 1.26   | 4.14   |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Q                 |      |                                           |        |         |                                        |                                                                                   | .20    | .62      | 1.17   | 2.24  | .16    | 1.63   |        |        |        |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | P                 | 1.39 | 2.72                                      | 3.39   | 1.84    | 1.56                                   | 4.48                                                                              | 6.30   | 4.20     | 3.42   | .98   | .56    | .43    | 31.16  |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Q                 | .48  | 1.63                                      | 1.43   | .32     | .10                                    | .28                                                                               | .38    | .25      | .14    | .08   | .04    | .04    | 5.17   |        |        |
| MEAN P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4/                | 3.50 | 3.67                                      | 3.69   | 3.31    | 3.47                                   | 4.88                                                                              | 5.75   | 4.56     | 4.02   | 2.87  | 2.79   | 3.33   | 45.84  |        |        |
| 56 YR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |      |                                           |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |
| ANNUAL MAXIMUM DISCHARGES (inches per hour) AND ANNUAL MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS                                                                                                                                                                                                                                                                                                                                                                                                                |                   |      |                                           |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |
| YEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MAXIMUM DISCHARGE |      | MAXIMUM VOLUME FOR SELECTED TIME INTERVAL |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |      | 1 HOUR                                    |        | 2 HOURS |                                        | 6 HOURS                                                                           |        | 12 HOURS |        | 1 DAY |        | 2 DAYS |        | 8 DAYS |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DATE              | RATE | DATE                                      | VOLUME | DATE    | VOLUME                                 | DATE                                                                              | VOLUME | DATE     | VOLUME | DATE  | VOLUME | DATE   | VOLUME | DATE   | VOLUME |
| 1965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7-15              | .04  | 7-15                                      | .04    | 7-15    | .08                                    | 7-15                                                                              | .18    | 2-14     | .32    | 2-14  | .49    | 2-14   | .82    | 2-13   | .95    |
| MAXIMUMS FOR PERIOD OF RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |      |                                           |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |
| 19 64 TO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10-5              | .12  | 10-5                                      | .12    | 10-5    | .24                                    | 10-5                                                                              | .64    | 10-5     | .99    | 10-5  | 1.28   | 10-4   | 1.59   | 10-4   | 1.83   |
| 19 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1964              |      | 1964                                      |        | 1964    |                                        | 1964                                                                              |        | 1964     |        | 1964  |        | 1964   |        | 1964   |        |
| NOTES: Watershed conditions: Woodland, 60%; row crops, 39%; homesites, pasture, and roads, 1%. 1/ Precipitation Thiessen weighted using 2 gages. 2/ Runoff data furnished by U.S. Geological Survey. 3/ STA AVG omitted since records after complete channel excavation only began July 1, 1964. 4/ Mean P based on 56-yr. (1910-1965) U.S. Weather Bureau record period at Scotland Neck, N. C. Missing records for Oct. 1920, May 1945, Jan. and May 1949, Jan., Feb., and Mar. 1950, and Nov. 1951 estimated from nearby station. |                   |      |                                           |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |
| 1964 DAILY PRECIPITATION (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         | AHOSKIE, NORTH CAROLINA WATERSHED W-A4 |                                                                                   |        |          |        |       |        |        | 75.4   |        |        |
| DAY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | JAN               | FEB  | MAR                                       | APR    | MAY     | JUNE                                   | JULY                                                                              | AUG    | SEPT     | OCT    | NOV   | DEC    |        |        |        |        |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .13      | .28    | .00   | .00    |        |        |        |        |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .10    | .00   | .00    |        |        |        |        |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .00                                                                               | 2.46   | .00      | .06    | .00   | .00    |        |        |        |        |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .90                                                                               | .34    | .00      | 1.71   | .00   | .14    |        |        |        |        |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | 2.53   | .00   | .28    |        |        |        |        |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .00    | .00   | .00    |        |        |        |        |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .11    | .00   | .00    |        |        |        |        |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | .12                                                                               | .19    | .00      | .06    | .04   | .00    |        |        |        |        |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |      |                                           |        |         |                                        | 1.54                                                                              | .16    | .00      | .06    | .00   | .00    |        |        |        |        |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .00    | .00   | .00    |        |        |        |        |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .42      | .00    | .00   | .00    |        |        |        |        |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .19      | .17    | .00   | .12    |        |        |        |        |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .35                                                                               | .00    | 2.61     | .06    | .00   | .00    |        |        |        |        |
| 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .06    | .00   | .00    |        |        |        |        |
| 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .00    | .00   | .00    |        |        |        |        |
| 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .31    | .00      | .39    | .00   | .00    |        |        |        |        |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .23    | .00      | .80    | .00   | .28    |        |        |        |        |
| 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .48                                                                               | .00    | .00      | .00    | .00   | .02    |        |        |        |        |
| 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .20                                                                               | .00    | .00      | .10    | .10   | .00    |        |        |        |        |
| 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .12                                                                               | .18    | .00      | .14    | .30   | .40    |        |        |        |        |
| 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .23                                                                               | .00    | .00      | .08    | .00   | .00    |        |        |        |        |
| 22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .00    | .00   | .00    |        |        |        |        |
| 23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .02                                                                               | .00    | .00      | .00    | .00   | .00    |        |        |        |        |
| 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | 1.13                                                                              | .00    | .00      | .00    | .00   | .00    |        |        |        |        |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .00    | .00      | .00    | .72   | .00    |        |        |        |        |
| 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .18    | .00      | .00    | .00   | 2.28   |        |        |        |        |
| 27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .52                                                                               | .00    | .00      | .00    | .00   | .60    |        |        |        |        |
| 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .52                                                                               | .00    | .80      | .00    | .00   | .02    |        |        |        |        |
| 29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .39                                                                               | .91    | .09      | .00    | .10   | .00    |        |        |        |        |
| 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | .10    | .49      | .00    | .00   | .00    |        |        |        |        |
| 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |      |                                           |        |         |                                        | .00                                                                               | 2.00   |          | .00    |       | .00    |        |        |        |        |
| TOTAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |      |                                           |        |         |                                        | 6.52                                                                              | 7.06   | 4.73     | 6.71   | 1.26  | 4.14   |        |        |        |        |
| STA AV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |      |                                           |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |
| NOTES: PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 2 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.                                                                                                                                                                                                                                                                                                                                                                                                       |                   |      |                                           |        |         |                                        |                                                                                   |        |          |        |       |        |        |        |        |        |

| 1965 DAILY PRECIPITATION (inches) |      |       |      |       |      | AHDOSKIE, NORTH CAROLINA |      |      |       |     |       | WATERSHED W-A4 | 75.4 |
|-----------------------------------|------|-------|------|-------|------|--------------------------|------|------|-------|-----|-------|----------------|------|
| DAY                               | JAN  | FEB   | MAR  | APR   | MAY  | JUNE                     | JULY | AUG  | SEPT  | OCT | NOV   | DEC            |      |
| 1                                 | .00  | .00   | .00  | .00   | .00  | .00                      | .00  | 1.23 | .00   | .00 | .00   | .00            |      |
| 2                                 | .00  | .18   | .44  | .00   | .00  | .00                      | .00  | .04  | .26   | .00 | .00   | .00            |      |
| 3                                 | .00  | .00   | .00  | .00   | .00  | .00                      | .00  | .00  | .00   | .00 | .00   | .00            |      |
| 4                                 | .00  | .00   | .37  | .00   | .00  | .00                      | .10  | .00  | .00   | .00 | .00   | .00            |      |
| 5                                 | .00  | .00   | .32  | .00   | .00  | .00                      | .32  | .00  | .00   | .00 | .00   | .00            |      |
| 6                                 | .00  | .00   | .00  | .37   | .00  | .00                      | .11  | .00  | .00   | .00 | .00   | .00            |      |
| 7                                 | .00  | .57   | .00  | .11   | .00  | .00                      | .29  | .00  | .00   | .98 | .00   | .00            |      |
| 8                                 | .00  | .00   | .00  | .00   | .00  | .00                      | .00  | .00  | .00   | .00 | .00   | .00            |      |
| 9                                 | .00  | .00   | .00  | .00   | .00  | .39                      | .00  | .14  | .00   | .00 | .00   | .00            |      |
| 10                                | .04  | .00   | .00  | .00   | .00  | .00                      | .38  | .00  | .00   | .00 | .00   | .00            |      |
| 11                                | .00  | .06   | .00  | .00   | .00  | 1.45                     | 1.06 | .00  | 1.21  | .00 | .00   | .00            |      |
| 12                                | .00  | .00   | .00  | .00   | .00  | .38                      | .31  | .00  | .00   | .00 | .00   | .07            |      |
| 13                                | .00  | .20   | .00  | .00   | .00  | .00                      | .00  | .00  | .08   | .00 | .04   | .18            |      |
| 14                                | .00  | .75   | .00  | .00   | .00  | .00                      | .00  | .00  | .27   | .00 | .00   | .00            |      |
| 15                                | .28  | .56   | .00  | .12   | .00  | .64                      | 1.74 | .00  | .00   | .00 | .00   | .00            |      |
| 16                                | .25  | .00   | .00  | .02   | .00  | 1.23                     | .00  | .00  | .00   | .00 | .00   | .00            |      |
| 17                                | .13  | .00   | .54  | .00   | .07  | .00                      | .00  | .00  | .59   | .00 | .00   | .00            |      |
| 18                                | .11  | .00   | .18  | .00   | .00  | .00                      | .11  | .00  | .00   | .00 | .00   | .00            |      |
| 19                                | .00  | .00   | .06  | .00   | .00  | .00                      | .00  | .79  | .00   | .00 | .00   | .00            |      |
| 20                                | .00  | .00   | .15  | .04   | .00  | .00                      | .00  | .00  | .00   | .00 | .00   | .00            |      |
| 21                                | .00  | .00   | .21  | .06   | .00  | .00                      | .00  | .00  | .00   | .00 | .02   | .00            |      |
| 22                                | .00  | .00   | .00  | .00   | .00  | .00                      | .00  | .43  | .00   | .00 | .44   | .00            |      |
| 23                                | .00  | .00   | .26  | .00   | .00  | .00                      | .00  | .51  | .00   | .00 | .06   | .00            |      |
| 24                                | .24  | .00   | .01  | .00   | .00  | .07                      | .00  | .00  | 1.01  | .00 | .00   | .00            |      |
| 25                                | .00  | .40   | .77  | .04   | .00  | .23                      | .00  | .01  | .00   | .00 | .00   | .18            |      |
| 26                                | .00  | .00   | .00  | .02   | .00  | .00                      | .47  | .62  | .00   | .00 | .00   | .00            |      |
| 27                                | .00  | .00   | .00  | 1.04  | 1.49 | .00                      | .44  | .00  | .00   | .00 | .00   | .00            |      |
| 28                                | .00  | .00   | .00  | .02   | .00  | .00                      | .95  | .43  | .00   | .00 | .00   | .00            |      |
| 29                                | .00  | ----- | .08  | .00   | .00  | .09                      | .02  | .00  | .00   | .00 | .00   | .00            |      |
| 30                                | .26  | ----- | .00  | .00   | .00  | .00                      | .00  | .00  | .00   | .00 | .00   | .00            |      |
| 31                                | .08  | ----- | .00  | ----- | .00  | -----                    | .00  | .00  | ----- | .00 | ----- | .00            |      |
| TOTAL                             | 1.39 | 2.72  | 3.39 | 1.84  | 1.56 | 4.48                     | 6.30 | 4.20 | 3.42  | .98 | .56   | .43            |      |
| STA AV                            |      |       |      |       |      |                          |      |      |       |     |       |                |      |

## NOTES:

PRECIPITATION VALUES ARE THIESSEN WEIGHTED AVERAGES OF 2 GAGES. STA AV NOT SHOWN SINCE RECORDS ONLY BEGAN JULY 1, 1964.

| 1964 MEAN DAILY DISCHARGE (cfs) |     |     |     |     |     | AHOSKIE, NORTH CAROLINA WATERSHED W-A4 75.04 |      |       |       |       |      |       |
|---------------------------------|-----|-----|-----|-----|-----|----------------------------------------------|------|-------|-------|-------|------|-------|
| DAY                             | JAN | FEB | MAR | APR | MAY | JUNE                                         | JULY | AUG   | SEPT  | OCT   | NOV  | DEC   |
| 1                               |     |     |     |     |     |                                              | .05  | .20   | 25.00 | 1.60  | .30  | .40   |
| 2                               |     |     |     |     |     |                                              | .05  | .10   | 3.00  | 1.00  | .30  | .40   |
| 3                               |     |     |     |     |     |                                              | .05  | 13.00 | 1.00  | .70   | .30  | .30   |
| 4                               |     |     |     |     |     |                                              | .20  | 15.00 | .20   | 9.80  | .30  | .40   |
| 5                               |     |     |     |     |     |                                              | .20  | 1.00  | .20   | 89.00 | .30  | .50   |
| 6                               |     |     |     |     |     |                                              | .05  | .40   | .20   | 16.00 | .30  | .70   |
| 7                               |     |     |     |     |     |                                              | .05  | .20   | .10   | 4.30  | .30  | .50   |
| 8                               |     |     |     |     |     |                                              | .05  | .30   | .10   | 2.10  | .30  | .50   |
| 9                               |     |     |     |     |     |                                              | .40  | .30   | .10   | 1.40  | .30  | .40   |
| 10                              |     |     |     |     |     |                                              | .60  | .20   | .10   | 1.00  | .30  | .30   |
| 11                              |     |     |     |     |     |                                              | .20  | .20   | .10   | .70   | .30  | .30   |
| 12                              |     |     |     |     |     |                                              | .10  | .10   | .10   | .50   | .30  | .30   |
| 13                              |     |     |     |     |     |                                              | .10  | .05   | 36.00 | .50   | .30  | .40   |
| 14                              |     |     |     |     |     |                                              | .20  | .05   | 8.80  | .40   | .30  | .40   |
| 15                              |     |     |     |     |     |                                              | .05  | .05   | 1.80  | .40   | .30  | .40   |
| 16                              |     |     |     |     |     |                                              | .05  | .10   | .80   | .80   | .30  | .30   |
| 17                              |     |     |     |     |     |                                              | .05  | .10   | .50   | 11.00 | .30  | .40   |
| 18                              |     |     |     |     |     |                                              | .20  | .05   | .40   | 4.90  | .30  | .60   |
| 19                              |     |     |     |     |     |                                              | .20  | .10   | .40   | 2.00  | .30  | .50   |
| 20                              |     |     |     |     |     |                                              | .10  | .20   | .30   | 1.70  | .40  | 1.00  |
| 21                              |     |     |     |     |     |                                              | .20  | .10   | .30   | 1.70  | .30  | 1.20  |
| 22                              |     |     |     |     |     |                                              | .20  | .10   | .20   | 1.10  | .30  | .80   |
| 23                              |     |     |     |     |     |                                              | .10  | .05   | .20   | .80   | .30  | .70   |
| 24                              |     |     |     |     |     |                                              | 2.30 | .05   | .20   | .60   | .30  | .60   |
| 25                              |     |     |     |     |     |                                              | .60  | .05   | .20   | .50   | 1.00 | .60   |
| 26                              |     |     |     |     |     |                                              | .20  | .05   | .10   | .50   | .90  | 45.00 |
| 27                              |     |     |     |     |     |                                              | .20  | .05   | .10   | .40   | .60  | 39.00 |
| 28                              |     |     |     |     |     |                                              | .60  | .05   | .30   | .40   | .50  | 8.50  |
| 29                              |     |     |     |     |     |                                              | 6.30 | 1.00  | .30   | .40   | .40  | 4.00  |
| 30                              |     |     |     |     |     |                                              | .40  | .20   | 1.00  | .40   | .40  | 2.50  |
| 31                              |     |     |     |     |     |                                              | .20  | 10.00 |       | .30   |      | 2.00  |
| MEAN                            |     |     |     |     |     |                                              | .46  | 1.40  | 2.74  | 5.06  | .37  | 3.67  |
| INCHES                          |     |     |     |     |     |                                              | .20  | .62   | 1.17  | 2.24  | .16  | 1.63  |

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0143039. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR.

| 1965 MEAN DAILY DISCHARGE (cfs) |      |       |       |       |     | AHOSKIE, NORTH CAROLINA WATERSHED W-A4 75.04 |       |      |       |      |       |     |
|---------------------------------|------|-------|-------|-------|-----|----------------------------------------------|-------|------|-------|------|-------|-----|
| DAY                             | JAN  | FEB   | MAR   | APR   | MAY | JUNE                                         | JULY  | AUG  | SEPT  | OCT  | NOV   | DEC |
| 1                               | 1.50 | .90   | 1.10  | .90   | .50 | .10                                          | .20   | 4.70 | .20   | .10  | .10   | .10 |
| 2                               | 1.20 | 5.10  | 1.50  | .90   | .40 | .10                                          | .10   | 3.60 | .30   | .10  | .10   | .10 |
| 3                               | 1.10 | 3.20  | 4.80  | .70   | .30 | .10                                          | .10   | .60  | .20   | .10  | .10   | .10 |
| 4                               | .80  | 1.80  | 2.60  | .60   | .30 | .20                                          | .10   | .30  | .20   | .10  | .10   | .10 |
| 5                               | .70  | 1.50  | 16.00 | .60   | .20 | .20                                          | .10   | .20  | .20   | .10  | .05   | .10 |
| 6                               | .60  | 1.30  | 4.60  | 1.20  | .20 | .20                                          | .10   | .20  | .20   | .10  | .05   | .10 |
| 7                               | .60  | 4.20  | 2.60  | 1.70  | .20 | .20                                          | .10   | .20  | .20   | .90  | .05   | .10 |
| 8                               | .50  | 8.30  | 1.90  | 1.20  | .20 | .20                                          | .10   | .10  | .20   | 1.10 | .05   | .10 |
| 9                               | .50  | 3.30  | 1.50  | 1.00  | .20 | .30                                          | .10   | .10  | .20   | .40  | .05   | .10 |
| 10                              | .50  | 2.10  | 1.20  | .60   | .20 | .20                                          | .10   | .20  | .20   | .30  | .05   | .10 |
| 11                              | .60  | 1.70  | 1.00  | .60   | .20 | .30                                          | 1.20  | .20  | .90   | .20  | .10   | .10 |
| 12                              | .50  | 1.60  | .80   | .50   | .20 | 1.20                                         | 1.20  | .20  | .90   | .20  | .10   | .10 |
| 13                              | .50  | 4.40  | .80   | .50   | .20 | .40                                          | .60   | .20  | .30   | .20  | .10   | .10 |
| 14                              | .50  | 22.00 | .70   | .40   | .10 | .20                                          | .30   | .20  | .30   | .20  | .10   | .10 |
| 15                              | .40  | 19.00 | .70   | .40   | .10 | .40                                          | 11.00 | .20  | .20   | .20  | .10   | .10 |
| 16                              | .60  | 7.20  | .70   | .50   | .10 | 9.80                                         | 6.60  | .20  | .20   | .10  | .10   | .10 |
| 17                              | .70  | 4.90  | 1.40  | .40   | .20 | 1.80                                         | .80   | .20  | .70   | .10  | .10   | .10 |
| 18                              | .70  | 3.30  | 7.30  | .30   | .20 | .90                                          | .40   | .20  | .70   | .10  | .10   | .10 |
| 19                              | .60  | 2.40  | 2.90  | .30   | .20 | .40                                          | .30   | .40  | .30   | .10  | .10   | .10 |
| 20                              | .70  | 1.70  | 4.60  | .30   | .20 | .30                                          | .20   | .30  | .20   | .10  | .10   | .10 |
| 21                              | 1.50 | 1.40  | 3.30  | .30   | .10 | .30                                          | .20   | .20  | .20   | .10  | .10   | .10 |
| 22                              | 2.20 | 1.20  | 2.20  | .30   | .10 | .20                                          | .20   | .30  | .20   | .10  | .20   | .10 |
| 23                              | 2.50 | 1.00  | 2.20  | .30   | .20 | .20                                          | .10   | .60  | .20   | .10  | .10   | .10 |
| 24                              | 2.90 | 1.00  | 2.90  | .30   | .20 | .20                                          | .10   | .60  | .80   | .10  | .10   | .10 |
| 25                              | 3.50 | 4.20  | 7.20  | .30   | .20 | .20                                          | .10   | .20  | 1.20  | .10  | .10   | .10 |
| 26                              | 2.00 | 2.60  | 12.00 | .30   | .20 | .20                                          | .10   | .80  | .30   | .10  | .10   | .10 |
| 27                              | 1.40 | 1.60  | 4.30  | .70   | .40 | .20                                          | .20   | .30  | .20   | .10  | .10   | .10 |
| 28                              | 1.00 | 1.30  | 2.40  | 3.90  | .40 | .20                                          | 1.20  | .70  | .10   | .10  | .10   | .10 |
| 29                              | .80  | ----- | 2.00  | 1.50  | .20 | .20                                          | .40   | .80  | .10   | .10  | .10   | .10 |
| 30                              | .80  | ----- | 1.70  | .80   | .20 | .20                                          | .30   | .30  | .10   | .10  | .10   | .10 |
| 31                              | .90  | ----- | 1.20  | ----- | .10 | -----                                        | .20   | .20  | ----- | .10  | ----- | .10 |
| MEAN                            | 1.07 | 4.08  | 3.23  | .74   | .22 | .65                                          | .86   | .56  | .34   | .19  | .09   | .10 |
| INCHES                          | .48  | 1.63  | 1.43  | .32   | .10 | .28                                          | .38   | .25  | .14   | .08  | .04   | .04 |

NOTES: TO CONVERT MEAN DAILY DISCHARGE IN CFS TO IN/DAY, MULTIPLY BY .0143039. RUNOFF DATA FURNISHED BY U.S. GEOLOGICAL SURVEY. RECORDS ARE FAIR.

| 1964 SELECTED RUNOFF EVENT                  |                      |                    | AHOSKIE, NORTH CAROLINA |                             |                      |                  | WATERSHED W-A4 |                | 75.04         |                  |      |      |       |
|---------------------------------------------|----------------------|--------------------|-------------------------|-----------------------------|----------------------|------------------|----------------|----------------|---------------|------------------|------|------|-------|
| ANTECEDENT CONDITIONS                       |                      |                    | RAINFALL                |                             |                      |                  | RUNOFF         |                |               |                  |      |      |       |
| DATE<br>MO-DAY                              | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY          | TIME<br>OF DAY              | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |      |      |       |
| 10-4                                        | .00                  | 1/.0029            | 10-4                    | Event of October 4-11, 1964 |                      |                  | 10-4           |                |               |                  |      |      |       |
|                                             |                      |                    |                         | RG .7                       |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         | 0630                        | .00                  | .00              |                |                |               |                  | 1430 | .6   | .0000 |
|                                             |                      |                    |                         | 1445                        | .03                  | .27              |                |                |               |                  | 1430 | .8   | .0027 |
|                                             |                      |                    |                         | 1600                        | .38                  | .75              |                |                |               |                  | 1530 | 4.0  | .0041 |
|                                             |                      |                    |                         | 1730                        | .21                  | 1.07             |                |                |               |                  | 1800 | 28.5 | .0284 |
|                                             |                      |                    | 10-5                    | 1830                        | .03                  | 1.10             | 2000           | 29.6           | .0630         |                  |      |      |       |
|                                             |                      |                    |                         | 2115                        | .15                  | 1.50             | 10-5           | 2200           | 39.0          | .1039            |      |      |       |
|                                             |                      |                    |                         | 0700                        | .07                  | 2.17             |                | 0030           | 41.5          | .1638            |      |      |       |
|                                             |                      |                    |                         | 1130                        | .27                  | 3.40             |                | 0700           | 30.5          | .3033            |      |      |       |
|                                             |                      |                    |                         | 1300                        | .30                  | 3.85             |                | 0830           | 47.5          | .3382            |      |      |       |
|                                             |                      |                    |                         | 1500                        | .18                  | 4.20             |                | 0930           | 81.0          | .3765            |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
|                                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
| Watershed conditions:                       |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
| Approximate land use:                       |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
| 60% in woodland                             |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
| 39% in row crops                            |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |
| 1% in misc. (homesites, pasture, and roads) |                      |                    |                         |                             |                      |                  |                |                |               |                  |      |      |       |

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00059599. 1/ RUNOFF PRIOR TO 0800 ON 10-4-64. 2/ NORMAL BASE FLOW.

| 1965 SELECTED RUNOFF EVENT                     |                      |                    | AHOSKIE, NORTH CAROLINA |                           |                      |                  | WATERSHED W-A4 |                | 75.04         |                  |       |     |       |
|------------------------------------------------|----------------------|--------------------|-------------------------|---------------------------|----------------------|------------------|----------------|----------------|---------------|------------------|-------|-----|-------|
| ANTECEDENT CONDITIONS                          |                      |                    | RAINFALL                |                           |                      |                  | RUNOFF         |                |               |                  |       |     |       |
| DATE<br>MO-DAY                                 | RAINFALL<br>(inches) | RUNOFF<br>(inches) | DATE<br>MO-DAY          | TIME<br>OF DAY            | INTENSITY<br>(in/hr) | ACC.<br>(inches) | DATE<br>MO-DAY | TIME<br>OF DAY | RATE<br>(cfs) | ACC.<br>(inches) |       |     |       |
| 6-15                                           | .00                  | 4/.0004            | 6-15                    | Event of June 15-21, 1965 |                      |                  | 6-15           | 0300           | .20           | .0000            |       |     |       |
|                                                |                      |                    |                         | 2 RG AVG 3/               |                      |                  |                |                |               |                  |       |     |       |
|                                                |                      |                    |                         | 0730                      | .00                  | .00              |                |                |               |                  | 0800  | .20 | .0006 |
|                                                |                      |                    |                         | 0900                      | .12                  | .18              |                |                |               |                  | 1030  | .41 | .0010 |
|                                                |                      |                    |                         | 1200                      | .07                  | .40              |                |                |               |                  | 1300  | .45 | .0017 |
|                                                |                      |                    |                         | 1630                      | .00                  | .40              |                |                |               |                  | 1715  | .36 | .0027 |
|                                                |                      |                    | 6-16                    | 2300                      | .02                  | .54              |                | 6-16           | 1730          | 1.34             | .0028 |     |       |
|                                                |                      |                    |                         | 0200                      | .06                  | .72              |                |                | 1830          | .60              | .0034 |     |       |
|                                                |                      |                    |                         | 0400                      | .16                  | 1.04             |                |                | 0230          | 1.60             | .0087 |     |       |
|                                                |                      |                    |                         | 0630                      | .09                  | 1.26             |                |                | 0345          | 4.45             | .0109 |     |       |
|                                                |                      |                    |                         | 0730                      | .28                  | 1.54             |                |                | 0430          | 5.70             | .0132 |     |       |
|                                                |                      |                    |                         | 1030                      | .10                  | 1.83             |                |                | 0530          | 11.70            | .0184 |     |       |
| Watershed conditions:                          |                      |                    |                         |                           |                      |                  | 0630           | 13.20          | .0258         |                  |       |     |       |
| Approximate land use:                          |                      |                    |                         |                           |                      |                  | 0800           | 26.00          | .0433         |                  |       |     |       |
| 60% in woodland                                |                      |                    |                         |                           |                      |                  | 0915           | 32.00          | .0649         |                  |       |     |       |
| 39% in row crops                               |                      |                    |                         |                           |                      |                  | 1015           | 31.00          | .0837         |                  |       |     |       |
| 1% in misc. (homesites,<br>pasture, and roads) |                      |                    |                         |                           |                      |                  | 1215           | 21.50          | .1150         |                  |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 1245           | 21.00          | .1213         |                  |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 1800           | 7.50           | .1659         |                  |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 2400           | 3.50           | .1856         |                  |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 6-17           | 1200           | 1.75          | .2043            |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 2400           | 1.17           | .2148         |                  |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 6-18           | 2400           | .59           | .2274            |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 6-19           | 2400           | .36           | .2342            |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 6-20           | 2400           | .26           | .2387            |       |     |       |
|                                                |                      |                    |                         |                           |                      |                  | 6-21           | 2400           | 5/ .23        | .2422            |       |     |       |

NOTES: TO CONVERT CFS TO IN/HR MULTIPLY BY .00059599. 3/ PRECIPITATION IS ARITHMETIC AVERAGE OF 2 RAIN GAGES. 4/ RUNOFF PRIOR TO 0300 ON 6-15-65. 5/ NORMAL BASE FLOW.



